

Index

- Aaronson, Susan A., 110, 241
 Accenture, 136
 accountability frameworks, 198
 adaptive governance, 18
 Administrative Measures on Internet Information Services, 256–258
 Administrative Rules on International Networking Entry and Exit Gateways for Computer Information Networks, 254
 AEOs. *See* authorized economic operators
 Africa, 91–92
 Agency for the Protection of Data of Inhabitants (PRODHAB) (Costa Rica), 297–298
 Agreement on Rules of Origin (WTO), 139–140
 Agreement on Technical Barriers to Trade (TBT), 85, 107–108, 139
 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), 85, 140, 160, 166–168, 176–178, 187–188, 349
 Article 10.2, 170
 release of goods and, 191
 three-step test, 173–176
 AI. *See* Artificial Intelligence
 algorithms, 38–39, 108–109, 117, 131–132, 191–192, 308
 data-processing, 198
 decision-making, 233–234
 DL and, 163
 law enforcement and, 192
 proprietary, 212–213
 Alibaba, 246–247, 266, 341–342
 Amazon, 1–2, 168, 268, 345–346
 anonymization, 13–14, 206
 ANTAI. *See* National Authority of Transparency and Access to Information
 anti-counterfeiting technologies, 186–187
 APEC. *See* Asia-Pacific Economic Cooperation
 APL Ltd., 136
 Apple, 1–2, 69–70
 applications, 24
 Argentina, 140–141
 Argentina–Chile FTA, 273, 285, 289–290, 299–300
 Artificial Intelligence (AI), 2–4, 12–13, 99, 340
 accumulation of large data sets to train, 215
 applications of, 212–213, 246–247
 Committee on Regional Trade Agreements and, 164–165
 concentration of control over, 214
 cross-border data flows and, 224–225
 cross-border digital trade and, 215–224
 cross-border provision of, 227–228
 cross-border trade in, 240–241
 customers of, 352–353
 decision-making based on, 118
 defining, 160–164
 designed for different environments, 118–119
 ethics of, 355–356
 functional applications, 182, 192
 governance, 231–232, 241–242
 impact of, 160
 increased use of, 89
 industry, 74–75
 insurance coverage and, 125–127
 IP enforcement and, 178–181
 Kangaroo Problem of, 117–119
 limits in governing, 230
 medical diagnosis and, 122–125
 negotiations on issues related to, 214–215
 patents and, 163
 personal and non-personal data in context of, 225–227
 regulation of, 116–117, 127

- Artificial Intelligence (AI) (cont.)
 rise of, 145–146
 supply chain, 346
 Text and Data Mining (TDM) and, 161
 trade law and, 119–122
 value of, 227
 WTO and, 119–121
- ASEAN. *See* Association of Southeast Asian Nations
- Asia-Pacific Economic Cooperation (APEC), 87,
 283–284, 299, 309
 Cross-Border Privacy Rules, 284
 Privacy Framework, 37–38
 Privacy Principles of, 356
- Ask.com, 69–70
- Association of Southeast Asian Nations (ASEAN),
 352
- augmented reality, 197
- Austin, Lisa, 347
- Australia, 26–27, 33, 52–53, 220. *See also specific agreements*
 consumer protection and, 56–58
- Australia–Chile FTA, 287
- Australian Productivity Commission, 348
- Australia–Peru FTA, 273
- authority, 178–179
- authorized economic operators (AEOs), 138
- automated decision-making, 207–208, 327–328
- automation, 133–134, 178–181
 of border enforcement, 191–192
 concerns arising from, 190–191
 estimation of potential losses and damages, 184
 of procedures, 191
 semi-automated border controls, 181–182
- B2C e-commerce, 213–214
- Bahrain, 33
- Baidu, 1–2, 258–259
- Barlow, John Perry, 235–236
- Bauer, M., 71
- Berne Convention, 167–168, 173–174
- Bext360, 139
- BGI Group, 259–260
- big data, 345–346
 age of, 200–201, 242
 analytics, 222–223
 applications of, 246–247
 Committee on Regional Trade Agreements and,
 164–165
 copyright protection and, 169–170
 corpora of, 162, 166–170, 176
 customs control and, 183–185
 data colonialism and, 228–229
 defining, 160–164
- IP and, 166–170
 market of, 212–213
 outputs of processing corpora, 162
 patents and, 163
 personally identifiable information and, 200
 potential threats of, 320–321
 privacy and, 205
 WTO and, 164–166
- Bignami, Francesca, 236
- Binding Corporate Rule, 86–87
- bindingness, 56
- biometric screening, 181–182
- Bipartisan Trade Promotion Authority Act,
 268–269
- Bitcoin, 128
- blockchain, 128, 132, 134–136, 185
 applications of, 144–145
 cross-border data flows and, 156
 cybersecurity and, 145–146
 data localization and, 146
 data protection and, 148–151
 data sovereignty and, 147
 enforcement issues with, 144–145
 GDPR and, 148–151
 international trade and, 129, 134, 137, 151, 156,
 158
 IP and, 140
 key features of, 128–131, 133–134, 141
 legal recognition of transactions, 142–144, 152
 legal status of, 144
 nature of, 134
 paperless trade and, 136–137
 personal data and, 149
 polycentric governance and, 155–156
 privacy and, 147
 regulatory considerations around, 141,
 152–154
 traceability and transparency features of,
 139
 transnational nature of, 154, 158
 types of platforms, 130–132
 United States and, 143–144
 WTO and, 128, 137–141, 156, 158
- Blockchain Center, 157
- Blockchain Interoperability Alliance, 155–156
- Blockchain Knowledge Center, 157
- Blockchain Observatory Forum, 153
- Blockchain Research Institute, 155–156
- Blockpharma, 140–141
- Blockverify, 140–141
- Bolero, 137
- border enforcement, 191–192
- Boston Consulting Group, 135–136
- Brandeis, Louis, 195–196

- Brazil, 70–71, 140–141, 165–166. *See also specific agreements*
 Brazil–Chile FTA, 273, 290
 Breznitz, Dan, 348
 Buenos Aires Ministerial Conference, 142
 business trust
 enabling, 107–109
 Buterin, Vitalik, 133
 Buxbaum, Hannah, 237
 Bygrave, Lee, 236
- CAC. *See* Cyberspace Administration of China
 Cadena, 138
 California Consumer Privacy Act (CCPA),
 196–197, 237
 Cambridge Analytica scandal, 197–198
 Canada, 51–53, 279, 305–307, 314–315. *See also specific agreements*
 data regulation and, 312
 PIPEDA and, 307
 Canada–Costa Rica Free Trade Agreement,
 29–30, 272, 275, 282–283, 285–286
 Canada–Honduras FTA, 26
 Canada–Korea FTA, 26
 Canada–Peru FTA, 26, 276–277
 Castells, Manuel, 233–234
 Catalini, Christian, 135
 CCP. *See* Chinese Communist Party
 CCPA. *See* California Consumer Privacy Act
 CEFTA. *See* Central European Free Trade
 Agreement
 censorship, 12–13, 262–263, 357–358
 central actors, 51–55
 Central America–Mexico FTA, 26
 Central European Free Trade Agreement
 (CEFTA), 48–51
 Central Product Classification (CPC), 122–124
 centralization, 178–179, 181
 CEPA. *See* Closer Economic Partnership
 Agreement
 CERNET. *See* China Education and Research
 Network
 CETA. *See* Comprehensive Economic and Trade
 Agreement
 Charnovitz, Steve, 121–122
 Charter of Fundamental Rights (EU), 222
 Chile, 21–23, 33, 271–272, 291–293, 299. *See also specific agreements*
 Chile–EU Association Agreement, 272
 Chile–Uruguay FTA, 28, 273, 290
 Chile–US FTA, 272
 China, 1–2, 12–13, 66, 256, 264, 312–313, 352. *See also specific agreements*
 censorship and, 262–263
 cross-border data flows and, 264–265
 Cybersecurity Law, 246, 251–252, 257–261
 data regulation in, 256–263
 growth of Internet in, 247–248, 266–267
 guarded position of, 265
 Internet regulation in, 246–247, 252–254,
 260–261
 National Security Law, 251
 privacy and, 87
 regulatory landscape in, 247–252
 WTO and, 254–255
 Zimbabwe and, 353–354
 China – *Audiovisual Products*, 19, 120–121
 China Education and Research Network
 (CERNET), 246–247, 254
 China – *Electronic Payments*, 124
 China Golden Bridge Network (CHINAGBNET),
 254
 China Mobile, 254
 China Public Computer Network (CHINANET),
 254
 China – *Publications and Audiovisual*, 265
 China Science and Technology Network
 (CSTNET), 254
 CHINAGBNET. *See* China Golden Bridge
 Network
 China–Korea Free Trade Agreement, 164–165
 CHINANET. *See* China Public Computer
 Network
 Chinese Communist Party (CCP), 248–250
 Politburo of, 250–251
 Chinese Penal Code, 257–258
 Christensen, Lauritz, 70
 Citron, Danielle K., 191–192
 Ciuriak, Dan, 302–303
 civil law, 317
 civil society, 155–158, 219–220, 294, 350,
 356
 CJEU. *See* Court of Justice of European Union
 Clarifying Lawful Overseas Use of Data (CLOUD)
 Act, 90–91
 Closer Economic Partnership Agreement (CEPA),
 21
 CLOUD. *See* Clarifying Lawful Overseas Use of
 Data Act
 cloud computing services, 84
 CloudWalk, 353–354
 CNIL. *See* French National Commission on
 Informatics and Liberty
 Cohen, Julie, 234–235
 Colombia, 33, 48–49, 271–272, 296–297. *See also specific agreements*
 Colombia–Costa Rica FTA, 26
 Colombia–EU–Peru FTA, 32–33, 285

- Committee on Regional Trade Agreements, 164–165
- communication technology, 201–202
- Communications Decency Act, US, 38–39
- competition law, 334–335
- Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), 20, 24–25, 28, 34–37, 40, 55–56, 112, 216–217, 238–239, 273
 - Canada and, 302, 305–307, 312, 314–315
 - chapter 14 of, 314
 - data flows and, 304–307
 - data localization and, 307–308
 - e-commerce and, 303–304
 - privacy and, 351
 - source code and, 308
 - United States and, 351
 - USMCA difference with, 309–312
- Comprehensive Economic and Trade Agreement (CETA), 55–56
- compulsory licenses, 335–336
- computational processing power, 178–179
- computer vision, 182
- conductive regulatory environment, 151–152, 157–158
- confidentiality, 147
- consent, 326–328
- constitutional rights, 347–348
- Consumer Privacy Bill of Rights Act, 196–197, 202
- consumer protection, 36–37, 47, 61
 - Australia and, 56–58
 - deficiency of binding international frameworks on, 110
 - digital trade and, 96
 - Latin America and, 285–287
 - PTAs and, 107, 285–287
 - Singapore and, 56–58
 - WTO and, 107
- consumer rights, 89–90, 345
- consumer trust enhancing measures, 106–107
- containerized cargo, 188–189
- content, 24
- content regulation, 256–260
- control rights, 327–328
- Convention on the Use of Electronic Communications in International Contracts (2005), 157–158
- coordination costs, 135–136
- Copyright Act (US), 171–172
- copyright protection, 169–170
- Costa Rica, 48–49, 279, 297–298
- Couldry, Nick, 228–229
- Council for Trade in Goods, 349–350
- Council for Trade in Services, 124–125, 349–350
- Court of Appeals for the Second Circuit (US), 175
- Court of Justice of European Union (CJEU), 36, 168–170, 188–189, 218–219
- CPC. *See* Central Product Classification
- CPTPP. *See* Comprehensive and Progressive Agreement for Trans-Pacific Partnership
- Creative Passport, 140–141
- critical infrastructure, 35–36, 305
- Cross-Border Privacy Rules System (APEC), 284
- cryptocurrency, 128
- cryptographic techniques, 130
- CSTNET. *See* China Science and Technology Network
- Cultural Revolution, 251
- customs control, 181–183
 - big data and, 183–185
 - IoT and, 186
- customs duties, 109, 275, 277–278, 304
- cybercrimes, 106
- cybersecurity, 20–21, 36–37, 83–84, 86, 122, 223–224, 251–252, 356–357
 - blockchain and, 145–146
 - cross-border data flows and, 87–88
 - data regulation and, 109–110
 - deficiency of binding international frameworks on, 110
 - GATS and, 94–96
 - international cooperation on, 103–104
 - regulatory coordination on, 98
 - standards, 103–104
- Cybersecurity Law (China), 246, 251–252, 257–261
- Cyberspace Administration of China (CAC), 248–252, 259–261, 265–266
- cyberstalking, 106
- cyber warfare, 245–246
- data, free movement of, 24–25, 46–47
 - with trust, 234
- data, new uses for, 345–348
- data, trade and, 344–345
- data access rights, 329–338
 - for businesses, 332–333
 - compulsory licenses and, 335–336
- data collection, 3–4, 12, 341
- data colonialism, 197–198, 228–229
- data controllers, 149–150
- data flows, 15, 18–19, 24–25, 53, 231, 288–289, 316–317
 - CPTPP and, 304–307
- cross-border, 63, 84, 92, 145–146, 241
 - access to, 344
 - AI and, 224–225
 - blockchain and, 156
 - China and, 264–265
 - cybersecurity and, 87–88

- data localization and, 101–103
- data regulation and, 302–303
- distortion of, 356–359
 - data localization, 101–103
 - hindering, 83–84
 - limitations of, 226–227
 - restriction of, 86, 88, 223–224
- EU and, 220
- governance of, 214–216, 230, 232–233
- liberalization of, 232, 238–239, 241–242
- non-trade dimensions of, 359
- political gains from, 214
- privacy and, 86–87
- regulating barriers to, 351–352
- rules regarding, 343, 349–354
- sub-index on, 79–80
- embedded liberalism and, 45–46
- ensuring free, 141
- evolution of, 49
- GDPR and, 320, 337–339
- Latin America PTAs and, 270–273
- network of PTAs regulating, 54
- of personal data, 318–319, 325–326
- policies on, 78
- provisions in Latin American PTAs, 287–288
- provisions on, 288–289, 299
- PTAs and, 24–25, 43–44, 58–60, 102, 288–289, 298
- regulation of, 48–49, 265, 356–357
- regulatory coordination on, 98
- regulatory issues pertaining to, 84
- regulatory models on, 52–53
- rules on, 24, 26–27
- trade-related aspects of, 93
- US–South Korea FTA and, 34–35
- WTO and, 98, 110–112
- data governance, 3–5, 92
 - future-oriented models for, 6
- data innovation, 28–29
- data localization, 28, 34–35, 37, 145–146, 223–224, 263, 265–266
 - blockchain and, 146
 - CPTPP and, 307–308
 - cross-border data flows and, 101–103
 - e-commerce and, 357–358
 - provisions on, 311
 - PTAs and, 28, 290
 - requirements for, 287–288, 305
- data ownership, 320–325, 338
- data policies, 65–66, 71
 - cross-border, 65–66, 72
 - domestic, 65–66, 72
 - informed dialogue on, 77–78
 - for trade, 76–77
- data pollution, 203
- data portability, 327–328, 331, 338–339
- data privacy. *See* privacy
- Data Privacy Impact Assessment (DPIA), 65
- data processing, 12, 70, 196–197
 - restrictions on, 327–328
- data protection, 28–33, 105, 198, 234
 - blockchain and, 148–151
 - EU and, 230
 - GDPR and, 299–300
 - laws, 201–202
 - mechanisms, 40
 - national, 314
 - officials, 356
 - PTAs and, 30–31
- Data Protection Authority (DPA), 291–293
- Data Protection Officer (DPO), 65
- data protectionism, 3–4, 358–359
 - cost of, 12–13, 65–69
 - WTO and, 76–78
- data realms, 349–354
- data regulation, 100–102, 109–112
 - Canada, 312
 - China, 256–261, 263
 - constraints on, 302
 - cross-border data flows and, 302–303
 - main players in, 265
 - standards in, 107
- data restrictive measures, 69, 76, 89–90, 92–93
- Data Restrictiveness Index, 65–68, 75
- data retention, 80–81
- data sovereignty, 147, 200
- data subject's rights, 327–328
- data territoriality, 84
- data transfer, 112
- data trusts, 229
- Database Directive (EU), 168–170
- data-driven
 - economy, 85, 341–342, 353–354, 356–357
 - growth, 111
 - innovation, 3
 - services, 214–215, 254
- data-industrial complex, 199–200
- data-intense sectors, 73
- data-sharing agreements, 205
- decentralization, 133, 152–153
- 'Declaration of the Independence of Cyberspace' (Barlow), 235–236
- Declaration on Global Electronic Commerce, 42, 261
- deep learning (DL), 161–162
 - algorithms, 163
 - high value outputs of, 162
- de-identification, 208–209

- DEPA. *See* Digital Economy Partnership Agreement
- Department of Agriculture, 138–139
- depth indicator for trade agreement provisions, 49–51, 59
- descriptive risk rating, 183–184
- developing countries, 87, 91–92, 109–111, 353
- DGCE. *See* General Directorate of Electronic Commerce (Panama)
- Digital Economy Partnership Agreement (DEPA), 5–6, 8, 21–23, 40–41, 299
- digital flows, 35–36
- digital goods and services, 326–327
- digital identity, 40–41
- digital industrial policy, 91–92, 97
- digital innovation, 98, 107–109
- digital intelligence, 212–213
- Digital Millennium Privacy Act, 203
- digital natives, 12
- digital platforms, 40, 213–214, 234–236, 238
- digital protectionism, 165, 215–216
- digital services, 84, 89–90, 108
- digital single market, 316–317, 323–324, 336–337
- Digital Single Market Strategy (EU), 316, 318–320, 325, 337–339
- digital sovereignty, 230
- digital technologies, 128, 141, 199, 201, 215, 231–234, 268
- concentration of, 228
 - impact of, 5–6
 - limited availability of, 222–223
 - rise of, 145–146
 - security issues related to, 100
 - trade regulation and, 6
- digital tracking, 199
- digital trade, 15, 61, 74–76, 215–216
- chapter in USMCA, 312–313
 - consumer protection and, 96
 - costs for, 78–79
 - cross-border, 215–224
 - desirable baseline for, 232
 - development-related concerns in, 109–110
 - e-commerce and, 342
 - EU and, 214–224, 350–352
 - governance and, 33–34, 48
 - negotiations on, 213–214
 - personal data/personal information and, 212
 - personal information and, 105
 - provisions in PTAs, 20–23, 28–29, 43–44, 46, 48–49, 51–53, 61, 102–104, 109–110, 215–216, 270–273, 277–278, 285–288, 299–300, 302
 - United States and, 34, 39–40, 74, 215–216, 238–239, 263, 312–313, 358–359
 - WTO and, 33–34, 36, 43–44, 85, 100, 111–112, 215–217, 239–240, 275, 301–302, 307–308, 315, 349
- Digital Trade Agenda (US), 268–269
- Digital Trade Estimates (DTE), 65–66, 78
- Digital Trade Restrictiveness Index (DTRI), 58–61
- digital trade rules
- evolution of, 40–41
 - PTAs as preferred venue for, 40
- digital trust, 98, 101
- digitalization, 181–183, 192
- digitalization of services, 86–87
- digitization, 3, 11
- disinformation, 355–356, 359
- dispute settlement, 17, 160, 174, 239–240, 286–287, 312
- distributed denial of service attacks, 106
- distributed ledger technology (DLT), 131–132
- law enforcement and, 192
 - letters of credit and, 135–136
 - localization of traded goods and, 185–187
- distributed ledgers, 129–132
- DL. *See* deep learning
- DLT. *See* distributed ledger technology
- domestic security, 356–357
- domestic use of data, 76, 80–82
- DPA. *See* Data Protection Authority
- DPIA. *See* Data Privacy Impact Assessment
- DPO. *See* Data Protection Officer
- DTA. *See* US–Japan Digital Trade Agreement
- DTE. *See* Digital Trade Estimates
- DTRI. *See* Digital Trade Restrictiveness Index
- EAEU. *See* Eurasian Economic Union
- ECIPE. *See* European Center for International Political Economy
- e-commerce, 20–21, 26–27, 48, 53, 55–56, 105–106, 239–240, 274–275
- B2C, 213–214
 - CPTPP and, 303–304
 - cross-border transactions, 89
 - data localization and, 357–358
 - data-driven services and, 215
 - digital trade and, 342
 - IoT and, 268
 - Latin American countries' legal frameworks on, 298
 - Latin American PTAs and, 273–274
 - legal framework of, 291
 - network of PTAs regulating, 54
 - PTAs and, 40, 55, 105, 298
 - regulation of, 48–49, 268–269
 - regulatory convergence in, 270–273
 - regulatory models on, 52–53

- users of, 283
- USMCA and, 273, 303–304
- WTO and, 43, 146, 216–217
- WTO Plurilateral Negotiations on Trade-Related Aspects of Electronic Commerce, 312–314
- economic globalization, 42
- economic growth, 215, 344
 - data as driver of, 1–2
- Economic Partnership Agreement with Japan (Japan–EU EPA), 219–220
- The Economist* (magazine), 130, 345–346
- eCustoms Decision (EU), 182–183
- e-documents, 141–144, 152, 156
- EDPS. *See* European Data Protection Supervisor
- EEA *See* European Economic Area
- EFTA *See* European Free Trade Association
- electronic authentication, 278–281
- Electronic Commerce Law (Colombia), 296
- electronic signatures, 46–47, 141–144, 152, 156, 263
- electronic transmissions, 109
- embedded liberalism, 45–46
- e-Privacy Directive, 89–90
- erasure/right to erasure, 149, 327–328, 338
- EssDocs, 137, 139–140
- Ethereum, 133
- eTradeConnect, 135–136
- EU. *See* European Union
- EU–Japan EPA, 26–27
- EU–Japan Free Trade Agreement, 351
- EU–Mexico Global Agreement, 26–27, 288–289
- Eurasian Economic Union (EAEU), 53–55
- European Blockchain Partnership, 154
- European Center for International Political Economy (ECIPE), 58–61, 65–66, 78
- European Commission, 138, 214, 222–223, 226–227, 318–319, 332–333, 351–352
- European Copyright Society, 172–173
- European Data Protection Supervisor (EDPS), 227–228
- European Economic Area (EEA), 218–220
- European Free Trade Association (EFTA), 48–49
- European Strategy for Data 2020, 222–223
- European Union (EU), 14, 20–21, 26–27, 38, 52–53, 212–213, 222–223, 312–313. *See also specific agreements*
 - Blockchain Observatory Forum, 153
 - Charter of Fundamental Rights, 22
 - cross-border data flows and, 220
 - data protection and, 105, 230
 - Database Directive, 168–170
 - Digital Single Market Strategy, 34, 316, 318–320, 325, 337–339
 - digital trade and, 218–219
 - digital trade war, 358–359
 - eCustoms Decision, 182–183
 - EU–US Privacy Shield, 104–105, 149–150
 - EU–US Safe Harbor Agreement, 36
 - Free Trade Agreements (FTAs) and, 24–25, 105, 219–220, 224, 312–313, 351–352
 - Osaka Declaration on the Digital Economy and, 301–302
 - personal data in, 148
 - policymakers in, 355–356
 - Public Sector Information Directive, 333–334
 - sui generis right in databases in, 169–170
 - Trade Secrets Directive, 335–336
- EU–US Transatlantic Trade and Investment Partnership (TTIP), 238–239
- extraterritorial digital data, 90, 97–98
- Facebook, 1–2, 117, 147, 168, 268, 345–346
- facial recognition, 181–182, 197
- fair, reasonable, and non-discriminatory terms (FRAND), 335–336
- FCA. *See* Financial Conduct Authority
- Federal Trade Commission, 209–210
- Ferracane, Martina F., 65–66, 71–72, 75–76, 302–303
- Financial Conduct Authority (FCA), 153–154
- financial institutions, 125
- financial intermediation, 135
- financial services, 25, 31–32, 125
- 5G, 1–2
- flexibility indicator for trade agreement provisions, 47, 51–52, 143–144
- Football Dataco*, 168
- Fourth Industrial Revolution, 3, 165
- France, 66, 170–171
- FRAND. *See* fair, reasonable, and non-discriminatory terms
- Free Trade Agreements (FTAs), 21, 183, 216–217, 261, 307–308. *See also specific FTAs*
- freedom of expression, 63–64
- freedom of speech, 248
- French National Commission on Informatics and Liberty (CNIL), 149–151
- Freund, C., 74
- FTAs. *See* Free Trade Agreements
- fundamental rights, 4–5, 13–14, 40, 214, 218–219, 222–224, 230, 241, 316–317, 320–322
- G7, 234
- G20, 212–213, 234, 301–302
- GAFA. *See* Google, Apple, Facebook, and Amazon
- Gans, J. S., 135
- Gasser, Urs, 8

- GATS. *See* General Agreement on Trade in Services
- GATT 1994. *See* General Agreement on Tariffs and Trade 1994
- GDP. *See* Gross Domestic Product
- GDPR. *See* General Data Protection Regulation
- Geiger, Christophe, 170
- Geist, Michael, 307
- General Agreement on Tariffs and Trade 1994 (GATT 1994), 85
- General Agreement on Trade in Services (GATS), 16–17, 20–21, 85, 92, 307–308, 349
- Article VI, 110
- Article VII, 106
- Article XIV, 126
- Article XIV(c)(ii), 217, 220
- Article XVIII, 110
- Article XX, 176
- characteristics of, 119–121
- commitments, 17–18, 92–93, 110–111, 122, 239–240
- cybersecurity and, 94–96
- digital industrial policy and, 97
- existing architecture of, 111
- general exception under, 16–17, 92–93, 111, 217, 220, 222, 239–240, 265, 307–312, 356–357
- IMF and, 100–101
- privacy and, 16–17, 93–94, 105–106, 220–222
- public interest regulation and, 239–240
- General Data Protection Regulation (GDPR), 14, 26–27, 61, 70, 86–87, 125, 147, 196–197, 237, 299–300
- access granted by, 338–339
- application of, 337
- blockchain and, 148–151
- data flows and, 26–27, 86–87, 219–220, 224–225, 239–240, 320, 337–339
- data subjects' rights and, 327–328
- enactment of, 200
- European Commission and, 319, 351
- ownership as control and, 325, 338
- personal data and, 149–150, 219–220, 317, 329–332
- privacy and, 246
- scope of, 218–219
- General Directorate of Electronic Commerce (DGCE) (Panama), 294–295
- General Directorate of Transparency, Access to Public Information and Protection of Personal Data (NDPA) (Peru), 294
- German Copyright Act, 170–171
- German Ethics Commission, 229
- German Ministry of Economic Affairs, 229
- Germany, 66, 126
- Global Financial Innovation Network (GFIN), 153–154
- global public goods, 8
- global regulation, 45
- Global Trade Analysis Project (GTAP), 73
- Global Trade and Blockchain Forum (WTO), 157
- globalization, 42, 137, 158, 231, 233–234, 348
- Goldfarb, A., 74–75
- Google, 1–2, 116, 168, 263–264, 268, 341–342, 345–346
- Google, Apple, Facebook, and Amazon (GAFA), 117
- Google Books, 172, 175
- governance toolkits, 2–3
- Gross Domestic Product (GDP), 69
- long-run growth of, 71–72
- total increased world, 73
- Grotius, Hugo, 235–236
- GTAP. *See* Global Trade Analysis Project
- Guide on the Determination of Critical Information Infrastructure, 259–260
- Guidelines for the Protection of Personal Information and Transborder Data Flows, 353
- GVC. *See* value chains
- Habeas Data Law (Colombia), 296
- hacking, 87–88, 106, 162, 330
- hardware regulation, 252–255
- Harvard University Privacy Tools Project, 208
- hate speech, 117
- Heap, Imogen, 140–141
- Hedera Hashgraph, 132
- Heraclitus, 231
- Hikvision, 116
- Hong Kong Monetary Authority, 154
- Hong Kong–New Zealand FTA, 26
- Hugenholtz, Bernt, 169–170
- human rights, 45–46, 77, 97–98, 231–235, 237, 239–241, 357–358
- digital, 242
- domestic, 238
- international economic law, 232
- respect for, 241
- Hyperledger Fabric, 132–133
- Hyperledger Project, 132–133
- Hyperledger Sawtooth, 131–132
- IBM, 132–133, 135
- ICANN. *See* Internet Corporation for Assigned Names and Numbers
- ICC. *See* International Chamber of Commerce
- ICO. *See* Initial Coin Offerings
- ICT. *See* information and communication technology

- identity theft, 106
- IETF. *See* Internet Engineering Task Force
- I.L.O. *See* International Labour Organization
- IMF. *See* International Monetary Fund
- Implementation of the Internet Power Strategy, 266–267
- Implementation Rules for the Provisional Regulations (Implementation Rules), 252–256
- Import Licensing Agreement*, 138–139
- INATBA. *See* International Association for Trusted Blockchain Applications
- India, 90–92, 268–269
- individual rights frameworks, 45–47, 214–215, 224–230, 325–326, 331, 338
- Indonesia, 26–27, 92, 220
- information and communication technology (ICT), 42, 46, 201–202
- information privacy. *See* privacy
- information processing. *See* data processing
- information technology (IT), 69, 130–131, 140–141, 201–202, 223–224
- Information Technology Agreement (ITA), 15–16, 349
- informational autonomy, 325–326, 338–339
- infrastructure, 222–224, 227, 233–234, 251, 347
 - cloud-based, 226–227
 - complementary policies and, 343
 - critical, 35–36, 259–260, 281, 305, 314–315
 - cybersecurity and, 87–88
 - data as form of, 348
 - data economy and, 212–213
 - development of, 164
 - regulation of, 24
- Initial Coin Offerings (ICO), 153
- Instagram, 116, 147
- Institute for Computer Science of China's State Commission of Machine Industry, 246–247
- insurance, 39–40, 74–76, 116–118, 120–121
 - coverage, 125–127
 - obligations, 294
- intellectual property (IP)/intellectual property rights (IPRs), 15, 20–21, 75, 91–92, 166, 177–178, 184–185, 234, 273
 - AI and enforcement of, 178–181
 - big data and, 166–170
 - blockchain and, 140
 - compulsory licenses and, 335–336
 - customs surveillance of, 177–178
 - enforcement, 178–179, 190–191
 - goods protected by, 186–188
 - infringement of, 140–141, 188–189
 - offices, 190
 - protection of, 161–162, 176, 178–179, 189–190
 - territoriality of IP protection, 187–188
- Inter-American Development Bank, 138
- Inter-American Juridical Committee, 299
- Interim Regulations on Electronic Publications, 257
- International Association for Trusted Blockchain Applications (INATBA), 155–156
- International Chamber of Commerce (ICC), 138, 145, 157
- International Conference of Data Protection and Privacy Commissioners, 106
- International Consumer Protection Enforcement Network, 106
- International Institute for the Unification of Private Law (UNIDROIT), 99
- International Labour Organization (ILO), 348
- International Monetary Fund (IMF), 100–101
- International Organization for Standardization (ISO), 107–108, 143
- international regulatory cooperation, 111–112
- international relations, 44
- international rule-making, 8
- International Telecommunication Union (ITU), 143
- international trade, 128
 - blockchain and, 129, 134, 137, 151, 156, 158
- Internet
 - China, growth of, 247–248, 260–261, 266–267
 - China, regulation of, 246–247, 252–254
 - fragmentation of, 77
 - governance, 5–6, 47, 77, 100, 155, 232, 235–236, 238–239, 241, 248–250, 260–261, 354
 - history of, 152
 - regulation of, 265–266
 - regulatory fragmentation, 144, 146, 152–153
 - stakeholders and, 180
 - of value, 137
- Internet Corporation for Assigned Names and Numbers (ICANN), 155
- Internet Engineering Task Force (IETF), 107–108
- Internet Explorer, 268
- Internet of Things (IoT), 12–13, 87–88, 99, 165, 197, 341
 - customs control and, 186
 - e-commerce and, 268
- Internet service providers (ISPs), 253–254
- interoperability, 33–34, 89, 99–100, 106, 154, 203–206, 208–209, 291, 304, 354
- IoT. *See* Internet of Things
- Ireland, 131–132
- ISO. *See* International Organization for Standardization
- ISPs. *See* Internet service providers

- IT. *See* information technology
 ITA. *See* Information Technology Agreement
 ITU. *See* International Telecommunication Union
- Japan, 48–49, 165, 171, 183, 234. *See also specific agreements*
 Japan–EU EPA. *See* Economic Partnership Agreement with Japan
 Japan–Mongolia FTA, 26, 28
 Japan–Thailand PTA, 49–51
 Joint Statement Initiative on Electronic Commerce (WTO), 19–20, 26, 77, 142, 156, 158, 266, 268–269, 301–302
 Joint Statement on Global Electronic Commerce, 29–30, 272
 Jordan, 21
 Jordan–US FTA Joint Statement on Electronic Commerce, 29–30
 Jordan–US PTA, 43–44
- Kelsey, Jane, 239–240
 Korea–Peru FTA, 26
 Korea–US PTA, 43–44
 Kuehne + Nagel, 136
- labour, 350
 capital and, 302–303, 347
 data, 346
 invisible, 346
 market, 318
 productivity, 348
- Latin America/Latin American countries (LACs), 53, 269–270, 273, 298–299
 consumer protection and, 285–287
 customs duties and, 277–278
 data flows and, 288–289
 data localization and, 290
 e-commerce and, 273–274
 electronic authentication and, 278–281
 personal data and, 281–282
 privacy and, 282–285, 291
 PTAs and, 270–274, 287–288
 source code and, 281
- law enforcement, 63, 90–91, 127, 145–146, 179–180, 192, 356–357
 layered structure of the Internet, 24
 LDCs. *See* least-developed countries
 Leading Group for Information Technology Advancement, 252–253
 League of Nations, 348
 least-developed countries (LDCs), 109–112
 Leblond, Patrick, 110, 358–359
 Lee, Kai-Fu, 353
- legal harmonization, 180–181, 332–333
 legal pluralism, 100
 legal transplants, 118–119
 Leistner, Matthias, 169–170
 Leong, Lily, 115–116
 letters of credit, 135–136, 145
 Leviathan Security Group, 70–71
 Li Keqiang, 250–251
 liberalization, 232, 238–239, 241–242
 libertarianism, 234–235
 lie detection, 181–182
 LinkedIn, 1–2
 Linux Foundation, 132–133
 local companies, 69–73, 76
 Lupton, Deborah, 233–234
- machine learning (ML), 161, 222–223, 233–234
 applications of, 246–247
 high value outputs of, 162
- Macron, Emmanuel, 117
 Maersk, 134–135
 Malmström, Cecilia, 64–65
 Malta, 143–144
 manufacturing sector, 101–102
 Manyika, James, 73
 ‘Mare Liberum’ (Grotius), 235–236
 market access commitments, 125–126, 305
 market capitalization, 212–214
 market failure, 321–322
 Marrakesh Agreement, 268
 mass communication, 195–196
 mass-market software, 305
 Mattoo, Aaditya, 75, 104–105
 McKinsey Global Institute, 233–234, 341–342
 McLean, Malcolm, 134
 Measures for Security Protection Administration of the International Networking of Computer Information Networks, 255–258
- medical diagnosis, 122–125
 MEI. *See* Ministry of Electronic Industry
 Mejias, U. A., 228–229
 Meltzer, Joshua P., 75, 104–105
 Mexico, 52–53
 Mexico–Panama FTA, 289, 298–299
 MFN. *See* most-favoured nation
 Microsoft, 1–2, 69–71
 MII. *See* Ministry of Information Industry
 MIIT. *See* Ministry of Industry and Information Technology
 Ministry of Electronic Industry (MEI) (China), 248–249, 254
 Ministry of Industry and Information Technology (MIIT) (China), 248–249, 256, 260–261

- Ministry of Information Industry (MII) (China), 248–249
- Ministry of Posts and Telecommunications (MPT) (China), 248–249, 254
- Ministry of Public Security (MPS) (China), 248–249, 260–261
- Ministry of Science and Technology (China), 259–260
- Mishra, Neha, 307–308
- Mitchell, Andrew, 307–308
- ML. *See* machine learning
- MLATs. *See* Mutual Legal Assistance Treaties
- Model Law on Electronic Commerce (UNCITRAL), 107, 157–158
- Model Law on Electronic Transferable Records (UNCITRAL), 142–143, 157–158
- monetization of data, 355
- Mongolia, 49–52
- Morocco, 33
- most-favoured nation (MFN), 15–16, 33–34, 47, 275–277
- MPS. *See* Ministry of Public Security
- MPT. *See* Ministry of Posts and Telecommunications
- Multi-annual Strategic Plan (EU), 182–183
- multilateral institutions, 100–101, 106–107
- multinational companies, 11, 96
- Mutual Legal Assistance Treaties (MLATs), 90–91, 97–98
- mutual recognition, 93–94, 138
- Article VII GATS and, 99, 106
- authentication technologies and, 278–281
- mechanisms, 104–106
- Myanmar, 118–119
- NAFTA. *See* North American Free Trade Agreement; United States-Mexico-Canada Agreement
- Naik, Ravi, 347–348
- NASSCOM-DSCI, 75
- National Authority of Transparency and Access to Information (ANTAI) (Panama), 295
- National Informatization Leading Group, 248–249
- National Infrastructure Commission (UK), 347
- National Institute of Standards (NIST) (US), 341
- national interests, 11, 87–88
- National Network Security Inspection Operation Manual, 259–260
- National People's Congress (NPC) (China), 248
- National Register of Data Bases (NRDB) (Colombia), 296–297
- National Security Law (China), 251
- national treatment (NT), 15–16, 92–93, 97, 122–125, 275–277
- natural language processing, 182–184
- NDPA. *See* General Directorate of Transparency, Access to Public Information and Protection of Personal Data
- Netflix, 263–264
- Netscape Navigator, 268
- network neutrality, 36–37
- New Zealand, 21–23, 26–27, 220
- Nigeria, 92
- NIST. *See* National Institute of Standards
- non-discrimination, 15–16, 37, 47, 56–58, 275–276, 315
- non-personal data, 13–14, 225–227, 319, 325, 330, 332
- Nordic-Baltic Region, 212–213
- North American Free Trade Agreement (NAFTA), 34, 302, 351
- NPC. *See* National People's Congress
- NRDB. *See* National Register of Data Bases
- NT. *See* national treatment
- Nvidia AI, 116
- OAS. *See* Organization of American States
- OECD. *See* Organisation for Economic Co-operation and Development
- Office of the Privacy Commissioner of Canada (OPC), 307
- oil and gas companies, 212
- Okazaki, Y., 188–189
- Oman, 33
- OPC. *See* Office of the Privacy Commissioner of Canada
- Open Government Partnership, 355–356
- Opinions on Strengthening and Improving Internet Administration, 248–249
- Organisation for Economic Co-operation and Development (OECD), 11, 104–105, 157, 234, 309, 332–333, 353–354
- Guidelines on Transborder Flows of Personal Data, 31
- Privacy Guidelines, 29–30, 196–197
- Privacy Principles of, 356
- Recommendation of the Council Concerning Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data, 37–38, 283–284
- Organization of American States (OAS), 299
- Osaka Declaration on the Digital Economy, 234, 301–302
- ownership as control, 325–326, 328–329, 338
- Pacific Alliance Additional Protocol (PAAP), 27–28, 273, 275–276, 286–287, 289

- PAFTA *See* Peru-Australia Free Trade Agreement
- Pakistan, 263–264
- Panama, 48–49, 271–272, 289, 294–295, 298–299
- Panama-US PTA, 48–49
- paperless trade, 46–47, 136–137
- patents, 163–164
- path dependency, 300
- payment service providers, 90
- PDLP. *See* Personal Data Protection Law
- personal data, 13–14, 31–33, 148
- access to, 329–330
 - AI and, 225–227
 - blockchain and, 149
 - collection and use of, 196–197
 - constitutional rights and, 347–348
 - cross-border transfers of, 225
 - digital trade and, 105, 212
 - flow of, 318–319, 325–326
 - GDPR and, 149–150, 219–220, 317, 329–332
 - lack of control over, 319
 - ownership as control over, 328–329
 - privacy of, 245–246
 - processing of, 328, 338
 - property rights in, 323–325
 - protection of, 263
 - safeguards, 322
 - WTO and, 104–105
- Personal Data Protection Law (PDLP) (Peru), 294
- personal information. *See* personal data
- Personal Information Protection and Electronic Documents Act (PIPEDA) (Canada), 307
- Peru, 33, 271–272, 293–294. *See also specific agreements*
- Peru–Australia Free Trade Agreement (PAFTA), 102, 105–106
- Petersmann, Ernst-Ulrich, 234–235
- PETs. *See* Privacy-Enhancing Technologies
- Philippines, 138–139
- phishing attacks, 106
- Ping An Technologies, 116
- Pinterest, 1–2
- PIPEDA. *See* Personal Information Protection and Electronic Documents Act
- pirated goods, 187–190
- PoET. *See* Proof of Elapsed Time
- political economy, 1–2, 44, 61, 199–200
- polycentric governance, 100, 154–156
- Porter, Michael, 152
- PoS. *See* proof-of-stake
- PoW. *See* proof-of-work
- PPMs. *See* process and production methods
- predictive analytics, 181–184, 205, 240–241
- preferential trade agreements (PTAs), 5–6, 15, 19–20, 53, 268–269. *See also specific agreements*
- conclusion of, 299
 - consumer protection and, 107, 285–287
 - customs duties and, 277–278
 - data flows and, 24–25, 43–44, 58–60, 102, 288–289, 298
 - data flows provisions in Latin American PTAs, 287–288
 - data localization and, 28, 290
 - data protection and, 30–31, 282–285
 - data-related rules in, 24–26
 - design features of, 44, 46
 - digital trade provisions in, 20–23
 - disagreement among members of, 56–58
 - electronic authentication and, 278–281
 - Electronic Commerce Chapters in, 111–112
 - Electronic Commerce/Digital Trade Chapters in, 110
 - heterogeneity among, 48
 - Latin America and, 270–274
 - negotiators of, 43–44, 58, 61
 - network of, 54
 - obligations, 83–84
 - personal data and, 281–282
 - preferred venue for digital trade rules, 40
 - privacy and, 30–31, 282–285
 - regulatory convergence in, 269–270
 - source code and, 281
 - variation in design of, 58
 - violation of, 299–300
- prescriptive risk management, 183–184
- President's Council of Advisors on Science and Technology (US), 209–210
- privacy, 3–4, 63–64, 77–79, 195–196, 282–285, 345
- administrative requirements on, 78–82
 - big data and, 205
 - binary notations of, 206
 - blockchain and, 147
 - China and, 87
 - CPTPP and, 351
 - cross-border data flows and, 86–87
 - data regulation and, 109–110
 - deficiency of binding international frameworks on, 110
 - differential, 207–209
 - EU and, 105
 - GATS and, 93–94
 - GDPR and, 246
 - Harvard University Privacy Tools Project, 208
 - institutional innovations and, 106

- limits to, 200–201
- mathematical guarantees of, 207–208
- of personal data, 245–246
- political economy of, 199–200
- protection, 14, 38
- regimes, 203, 304–307, 309
- regulatory coordination on, 98
- safeguards for, 197
- subject rights on, 81
- technology-induced concerns about, 201
- Privacy Framework, 11, 105–106
 - APEC, 31, 37–38, 87, 283–284, 309
 - developing countries and, 353
 - Future oriented, 210–211
 - variations in, 93–94
- privacy protection, 14, 20–21, 28–33, 38, 221–225, 281–282, 291, 304, 355
- Privacy-Enhancing Technologies (PETs), 203–204, 208
- private platform governance, 236
- privatization, 180
- process and production methods (PPMs), 121–122
- PRODHAB. *See* Agency for the Protection of Data of Inhabitants
- productivity, 70–73, 76
- Proof of Elapsed Time (PoET), 131–132
- proof-of-stake (PoS), 131–132
- proof-of-work (PoW), 131–132
- property rights, 317, 320–325, 328–329, 338
- Protection in the Handling of the Personal Data of Individuals (Costa Rica), 297–298
- Provenance, 139–141
- Provisional Regulations of the People's Republic of China on the Management of International Networking of Computer Information Networks (Provisional Regulations), 252–253
- PTAs. *See* preferential trade agreements
- public goods, 321–322, 332–333
- public interest regulation, 239–240
- public interests, 13–14
- public safety, 245–246
- public sector, 318
- Public Sector Information Directive (EU), 333–334
- public trust, 354
- Qian Tianbai, 246–247
- Radio Frequency Identification (RFID), 186–187
- RCEP. *See* Regional Comprehensive Economic Partnership
- R&D. *See* research and development
- reactive jurisdictional claims, 237–238
- reCAPTCHA, 346
- rectification, 327–328
- regime complexity, 45
- Regional Comprehensive Economic Partnership (RCEP), 352
- Regulation to the Law of Promotion of Competition and Effective Defence of the Consumer (Costa Rica), 297–298
- regulatory convergence, 154, 269–273
- regulatory cooperation, 41, 47–48, 56–58
- regulatory environments, 58, 66, 152–153
- regulatory fragmentation, 144, 146, 152–153
- regulatory harmonisation, 270
- regulatory sandboxes, 153–154
- Reidenberg, Joel, 237
- research and development (R&D), 74–76
- Resta, Giorgio, 236
- revenue collection, 137–138
- RFID. *See* Radio Frequency Identification
- right to information, 327–328, 353–354
- The Right to Privacy* (Brandeis and Warren), 195–196
- Ripple, 132
- risk analysis, 183–185
- risk management, 103–104, 183–184
- Ross, Wilbur, 358–359
- rule-makers, 51–60, 300
- rule-making, 269–270, 359
- rule-takers, 300, 359
- Russia, 66
- Rwanda, 165–166
- SAFTA. *See* Singapore-Australia Free Trade Agreement
- sanctions for non-compliance, 82
- Sanitary and Phytosanitary Measures (SPS), 139
- Scassa, Teresa, 308, 347
- Scholz, Lauren, 345–346
- Schrems, 36
- Schwartz, Paul M., 225
- scope indicator of trade agreement provisions, 46
- Seal, 140–141
- sector-specific regulations, 333–334, 336–337
- security standards, 108–109
- Segura-Serrano, Antonio, 100
- Selby, John, 90
- semi-automated border controls, 181–182
- Services Sectoral Classification List, 254–255
- Shackelford, Scott, 100
- SIC. *See* Superintendence of Industry and Commerce
- Singapore, 20–23, 28, 33
 - consumer protection and, 56–58
- Singapore–Australia Free Trade Agreement (SAFTA), 21–23, 28

- small- and medium-sized enterprises (SMEs), 70,
135, 269–270, 274–275, 298, 332–333
- small services-oriented economies, 66
- smart city, 117
- smart contracts, 133–134, 138–139
- SMEs. *See* small- and medium-sized enterprises
- Snapchat, 147
- Snowden, Edward, 199–200
- social media, 345
- socialism, 256–257
- software regulation, 255–256
- Solove, Daniel J., 225
- source code, 108–109, 224, 281, 305, 308
transparency of, 99
- South Africa, 268–269
- South Korea, 33, 138
- South Korea–United States FTA, 24–27
- Sovrin, 147
- spam control, 36–37
- Spotify, 140–141
- SPS. *See* Sanitary and Phytosanitary Measures
- stakeholders, 5–6, 8, 63–64, 77, 106, 138–139, 145,
152, 157–158, 180, 186–187, 212–213, 229,
245–246, 317, 354
- Standard Contractual Clauses, 86–87
- Stitch Fix, 340–343, 345–346, 349
- Stone, S., 79
- Strava, 340–343, 345–346, 349
- supercomputers, 1–2
- Superintendence of Industry and Commerce
(SIC), 296–297
- Supreme People's Court (China), 257–258
- Supreme People's Procuratorate (China), 257–258
- surveillance capitalism, 197–198, 228–229
- Swedish National Board of Trade, 64–65
- Switzerland, 189–190
- Szabo, Nick, 133–134
- Taiwan–Nicaragua FTA, 288–289
- takedown requests, 180–181
- TAPED *See* Trade Agreements Provisions on
Electronic Commerce and Data
(dataset)
- tariff losses, 109
- tariffs, 176
- TBT. *See* Agreement on Technical Barriers to
Trade
- TDM. *See* Text and Data Mining
- technological advances, 187–188, 195–196, 205
- technological protection measure (TPM), 162, 173
- Telecommunication Act (US), 246
- Telecommunication Regulation (China), 254–256
- Telecommunications Reference Paper, 110
- Tencent, 258–259
- terrorism, 245–246
- Tesla, 119
- Text and Data Mining (TDM), 161,
169–176
- text-as-data analysis, 53–55
- TFA. *See* Trade Facilitation Agreement
- TFP. *See* total factor productivity
- TikTok, 115–116
- TiSA. *See* Trade in Services Agreement
- Total factor productivity (TFP), 71
- TPM. *See* technological protection measure
- TPP. *See* Transpacific Partnership Agreement
- trade agreements, 214–215, 245. *See also* Free Trade
Agreements; preferential trade
agreements
- Trade Agreements Provisions on Electronic
Commerce and Data (dataset)
(TAPED), 20–21, 58–61, 270–271,
275–276
- trade conflicts, 17
- trade distortions, 69
- Trade Facilitation Agreement (TFA), 15–16,
137–138
- trade finance, 134, 152–154, 156
coordination costs, 135–136
- Trade in Services Agreement (TiSA), 219–220,
238–239, 261, 349
- trade rules, 3, 15, 24, 85, 111–112, 116–117, 176,
238–241, 345
digital, 20, 36, 40, 238–240, 268–269
international, 122, 239–240, 242
traditional, 268
- Trade Secrets Directive (EU), 335–336
- trade wars, 358–359
- trade-inhibiting effects, 64–65
- Tradelens, 135
- transaction costs, 269–270, 323–325
- Transpacific Partnership Agreement (TPP), 27–28,
55–56, 273, 289, 351
- transparency, 31–32, 38, 99–100, 107–108, 119,
129–130, 156, 191–192
active, 291–293
of blockchain, 139
cooperation on, 47–48
ensuring, 210–211
facilitation of, 348
GATS and, 92–93
importance of, 140–141
industry developments in, 272
lack of, 269–270
principles of, 337
requirements of, 14
of source code, 266
- treaty design, 58–60

- TRIPS. *See* Agreement on Trade-Related Aspects of Intellectual Property Rights
- Trump, Donald, 238–239
- TTIP. *See* EU-US Transatlantic Trade and Investment Partnership
- Tucker, Catherine, 74–75
- Tunisia, 26–27, 220
- Turkey, 66
- Twitter, 1–2, 342
- Uber, 345–346
- UDHR. *See* Universal Declaration of Human Rights
- Ukraine, 51
- UN Human Rights Council, 234–235
- UN/CEFACT. *See* United Nations Centre for Trade Facilitation and Electronic Business
- UNCITRAL. *See* United Nations Commission on International Trade Law
- UNCTAD. *See* United Nations Conference on Trade and Development
- Undisclosed Information Law (Costa Rica), 297–298
- UNIDROIT. *See* International Institute for the Unification of Private Law
- Uniform Customs and Practice for Documentary Credits, 145
- United Kingdom, 347
- United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), 157
- United Nations Commission on International Trade Law (UNCITRAL), 99
- Model Law on Electronic Commerce, 107, 157–158
- Model Law on Electronic Transferable Records, 142–143, 157–158
- United Nations Conference on Trade and Development (UNCTAD), 91–92, 165–166, 223–224, 228
- Digital Economy Report, 213–214
- United States (US), 14, 21, 118–119, 196–197, 215, 312–313. *See also specific agreements*
- blockchain and, 143–144
- Census, 205, 207–208
- Communications Decency Act, 38–39
- Copyright Act, 171–172
- Court of Appeals for the Second Circuit, 175
- CPTPP and, 351
- Digital Agenda of, 33
- Digital Trade Agenda, 268–269
- digital trade and, 34
- EU–US Privacy Shield, 104–105, 149–150
- Telecommunication Act, 246
- trade war, 358–359
- United States–Mexico–Canada Agreement (USMCA), 20–25, 28, 31–32, 37–40, 112, 216–217, 238–239
- APEC Cross-Border Privacy Rules and, 284
- Article 19.16(2) of, 108–109
- Canada and, 302, 312, 314–315
- CPTPP difference with, 309–312
- digital trade chapter in, 312–313
- e-commerce and, 273, 303–304
- Financial Services Chapter of, 102
- NAFTA 2.0 and, 351
- Universal Declaration of Human Rights (UDHR), 234–235
- Universal Trade Network, 155–156
- urbanization, 195–196
- Uruguay Round, 15–16
- US – *Gambling* case, 17
- US International Trade Commission (USITC), 74
- US–Japan Digital Trade Agreement (DTA), 21–23, 33–34, 39–40, 224
- USMCA. *See* United States–Mexico–Canada Agreement
- US–South Korea FTA, 34–35
- utopism, 234–235
- value chains, 181–182
- global value chains (GVC), 238–239
- value-added telecommunications services, 18–19
- van der Marel, Erik, 75–76, 302–303
- VCargoCloud, 139–140
- VeChain, 140–141
- Verified Organic, 139
- Vietnam, 183
- Virtual Private Network (VPN), 252–253, 256
- virtual reality, 197
- vital digital assets, 108
- Voltron, 135–136
- Volvo, 119
- VPN. *See* Virtual Private Network
- Warren, Samuel, 195–196
- WCO. *See* World Customs Organization
- WCopyfind, 53–55
- WEF. *See* World Economic Forum
- Weibo, 258–259
- Weinhold, D., 74
- West, Darrell, 357–358
- We.trade, 135–136
- WIPO. *See* World Intellectual Property Organization
- Work Programme on Electronic Commerce, 19–20, 239–240, 261–262, 264

- World Bank, 356
- World Customs Organization (WCO), 157
- World Economic Forum (WEF), 43, 234, 301–302, 341–342, 345–346
- World Intellectual Property Organization (WIPO), 140, 173
- World Trade Organization (WTO), 3, 42, 238–239, 301–302, 349
 - adaptive governance, 18
 - Agreement on Rules of Origin, 139–140
 - Agreements, 15–16, 116–117
 - AI and, 119–121
 - applicability of WTO rules to trade agreements, 275
 - big data and, 164–166
 - blockchain and, 128, 137–141, 156, 158
 - case law, 217
 - China and, 254–255
 - consumer protection and, 107
 - Council for Trade in Services, 124–125
 - customs duties and, 275
 - data flows and, 98, 110–112
 - data protectionism and, 76–78
 - data regulation, framework for, 101
 - data restrictive measures and, 92–93
 - data transfer and, 112
 - data-related issues, 97–98, 265–266
 - digital trade and, 315
 - Dispute Settlement Body, 174
 - e-commerce and, 43, 146, 216–217
 - exploring new regulatory approaches in, 100–101
 - fostering transparency of member's trade regimes, 156
 - General Council, 140–141, 261–262
 - Global Trade and Blockchain Forum, 157
 - interoperable and transparent standards in data regulation, 107
 - Joint Statement Initiative on Electronic Commerce, 19–20, 26, 77, 112, 142, 156, 158, 266, 268–269, 301–302
 - lack of progress under umbrella of, 40
 - members, 84–85, 99–100, 103–104, 350
 - Ministerial Conferences, 110, 261, 263–264, 268–269, 349–350
 - normative reach of, 176
 - norms, 35–36
 - obligations, 83–84, 122–123
 - Panel Report, 175–176
 - personal information and, 104–105
 - Plurilateral Negotiations on Trade-Related Aspects of Electronic Commerce, 312–314
 - as pre-Internet law, 15–20
 - secretariat, 352–353
- Xi Jinping, 250–251, 260–261, 266–267
- Xiaoice, 115–116
- Yahoo!, 12–13, 69–70
- Zero-Knowledge Proof (ZKP), 148–149
- Zhao Lianhai, 257–258
- Zhu Rongji, 248–249
- Zimbabwe, 353–354
- ZKP. *See* Zero-Knowledge Proof
- Zuboff, Shoshana, 228–229
- Zuckerberg, Mark, 117