

Index

Acemoglu, D, 101	GDP of, 124–125
icid drainage, 178–179	imports of, 44
Adämmer, P, 143–144	natural resource demand
additional profits taxes, 272–273	in, 24–26
Adelman, Morris, 164	Asia-Pacific market, 132-135
Africa	Association for the Study of Peak Oil
foreign aid to, 21	164–165
as net importer, 38–41	Association of Iron Ore Exporting
gricultural products	Countries (APEF), 220
GDP linked to, 65	Ates, A, 136
mineral products distinguished from,	auctions, 107
30	Auty, R M, 239
tariff escalation for, 69-70	
gricultural sector	back-stop resources, 93-94
of China, 64	backwardation, 140, 145-146
commodity boom in, 127	Baffes, J, 127
in developing countries, 228	Bagattini, G Y, 267
in Europe, 23	Bairoch, P, 13
Kuznets on, 7–8	Baltic dry index, 17
lobbies for, 58	bauxite, 67-68, 216
in Nigeria, 279	producer cartels, 215-217
protectionism in, 46, 54–56	Belt and Road Initiative, 252
share of, in GDP, 8	Bessler, W, 152–153
state ownership of, 228	bilateral agreements, 110
trade liberalization of, 65–66	of Soviet Union, 21
in United States, 46	bilateral contracts, commodity price
Aguilera, R F, 88	formation and, 108–109
Allcott, H, 280–281	biofuels, 73–74
Alquist, R, 158–159	biomass, 74
lluminum, tariffs on, 61–62	Blattman, C, 262
Anderson, K, 55, 61, 65	Bloomberg Commodity Index,
APEF. See Association of Iron Ore	151–152
Exporting Countries	Borcherding, T E, 249–250
Asia	BP, 72, 73–74, 90
commodity booms and role of,	Bretton Woods system, 122
123–124	Brorsen, B W, 136
economic development in, 24–26	Brunetti, C, 158–159
emerging, 24, 27	bubbles, speculative, 156–157,
exports of, 44	158–159
foreign aid to, 21	buffer stocks, 263–264

308



Index 309

bulk transportation technology, 14-15, Commitment of Traders (COT), 157 commodity booms, 1-2, 25-26, 174, 45 - 46180-181, 278-279 business cycle, 285 in agricultural sector, 127 Asia during, 123-124 call options, 141 Cashin, P, 103 commodity prices in, 99, 120 Caspian basin, 87 defining, 116-119, 128 CFF. See Compensatory Financing demand increased by, 278 duration of, 118-119 CFTC. See Commodity Futures Trading economic growth patterns during, Commission 118, 124, 125–126, 128 Chevallier, J, 138 end of, 279–280 Chicago Board of Trade, 132-135 food prices and, 66-67, 127 historical, 120-121, 122-123 Chicago Mercantile Exchange (CME), 132-136 inflation during, 122, 123-124 China, 1-2, 11-12, 128-129 macroeconomic conditions for, agricultural sector of, 64 117-118 as consumer, 3, 47 raw materials in, 121 super cycles of, 118-119 demand from, 17-18 global GDP share of, 50-51, 125 taxation and, 280 industrialization of, 50 commodity dependence, 286, 287 as net importer, 38, 45-52, 108-109 of developing nations, 257 population of, 24 measurement of, 256-260 rare earth metals in, 193 of monoeconomies, 256-260 on oil products, 259 soybean consumption of, 62 state ownership in, 252-253 commodity exchanges, 110, 130-160 tariffs of, 54-55 actors on, 147-154 trade liberalization in, 23 commodity optimal functioning on, 136-137 US trade imbalance with, 58, 185 commodity price formation and, value-added taxes in, 70 WTO joined by, 61 106-107 China Development Bank, 244-245 excluded commodities on, 137 China Export-Import Bank, 244–245 functions of, 138-146 Chinese Bao Steel, 108-109 hedges in, 147-149 chromium, 190 impacts of, 159-160 CIPEC. See Intergovernmental Council instruments, 138-146 new arrivals on, 137 of Copper Exporting Countries CIS. See Common Independent States objectives of, 147-154 open outcry systems of, 135-136 climate change, 89-90 greenhouse gases in, 178-179 price formation on, 143-145, Club of Rome, 104, 161, 163 155-160 CME. See Chicago Mercantile proliferation of, 130 Exchange in twentieth century, 132-135 coal, price evolution of, 76, 88-89 Commodity Futures Trading cobalt, 110, 192 Commission (CFTC), 157 Codelco, 148, 243, 249 commodity groups Coffee Agreement, 21 characteristics of, 28-33 collective action, 19 classifications of, 29–31 colonialism, 19, 235-236 defining, 28–30 commercial energy, at primary stage, 51 export evolution by, 33



310 Index

commodity groups (cont.) short-run price determination, price elasticity of demand of, 32 91-92, 94, 98-101 storage and classification of, 31 speculators and, 155-159 Commodity Index Fund, 151-152 supply contributing to, 100 commodity markets, 276-277 supply disruptions and, 186 complacency and function of, 11-12 transfer pricing and formation of, 109-110 financial investors in, 151-154 speculators in, 149-151 transparency in, 109 in unregulated competitive markets, transportation costs and emergence of, 12-18 commodity prices, 1-3 user-driven, 109-110 alternative trading arrangements in volatility of commodity booms caused by, 99 formation of, 106–112 auctions and formation of, 107 economic growth and relationship bilateral contracts and formation of, to, 100 108-109 history of, 98-99 capacity utilization and, 92 uncertainty caused by, 100 closures and reopenings impacting, commodity processing, 67-71 Commodity Research Bureau, 151-152 in commodity booms, 99, 120 commodity supply, traded commodity exchanges and formation provenance and destination of, of, 106-107 38-45, 52 cost relationship to, 97-98 by region, 39-40 cycle length for, 285-286 Common Agricultural Policy (CAP), 23 declines in, 285-286 Common Independent States (CIS), 41 demand contributing to, 99-100 communism, 22 exchange rates and, 114-115 Compensatory Finance Schemes, 263, 265-266 factors determining, 91–95 indices, 117, 122-123, 125 Compensatory Financing Facility in constant money, 76, 120 (CFF), 266 energy, 123 complacency, commodity market manufactures, 105 functioning and, 11-12 instability of, 95-101 concessional lending, 57 conflicts, 81–83 international economy and, 33-38 oil production and, 81 long-run price determination, 92-93, contango, 140, 145-146 101-106 defining, 145-146 Mill on, 104 Cooper, R N, 157-158 monopolistic, 95 copper, 51, 95-96 peaks in constant dollars, 120 producer cartels, 219-221 producer-dictated, 109-110 variable costs, 96 public-policy impacting, 96 in Zambia, 248-248 quotations, 112-114 corporate taxes, 79 currency in, 112 costs delivery place in, 113 commodity price relationship to, measurement units in, 112 97-98 product quality and, 112-113 of extraction of oil, 173 stage of processing and, 112-113 of nationalization, 238 time of delivery and, 113 oil production, per barrel, 173 resource depletion and, 167 of price stabilization, 269



Index 311

resource depletion and evidence domestic installations, 57 domestic output, 198-199 from, 168–173 Dutch auctions, 107 transportation, 12-18 variable, of copper, 96 Dutch disease, 277-281 COT. See Commitment of Traders empirical studies on, 280-281 Crain, M W, 267 history of, 277-278 currency, in commodity price quotations, 112 economic development, 26 CVRD, 108-109 in Asia, 24-26 Czelusta, J, 283-284 as dematerialization process, 10-11 primary commodities in, 6–12 Dalian Commodity Exchange, 132–135 productivity in, 9 Davis, G, 267, 282-283 in South Korea, 11 demand economic growth from China, 17-18 commodity booms and patterns of, commodity booms and, 278 118, 124, 125-126, 128 in emerging world, 24-25 commodity price volatility and income elasticity of, 105 relationship to, 100 in developing countries, 229-230 for industrial commodities, 50-51 for iron ore, 31 export instability slowing, 262 for metals, 47 resource curse and, 80 natural resource, 24-26 state-owned enterprises and, price stabilization with variable, 264 229-230 for rare earth metals, 12 Economic Partnership Agreement, 23 Ecuador, 78 for raw materials, 99-100 Eggert, R, 176 stagnation of, 47 for steel, 11 EIA. See Energy Information for uranium, 219 Administration electricity, 73, 182 dematerialization electronic trading, 136 in advanced economies, 182 economic development as process of, emerging world, 1-2 10 - 11demand in, 24-25 Dempsey, N, 179-180 primary commodity markets and, Department of Agriculture, US, 25 - 26113-114 energy consumption, global, 72 Deuskar, P, 158-159 by source, 73 developing countries, 235 **Energy Information Administration** agricultural sector in, 228 (EIA), 85, 87, 90 commodity dependence of, 257 energy price index, 123 economic growth in, 229-230 energy raw materials, 72 foreign direct investment for, 196 energy sector, state ownership of, GDP of, 270 228-229 nationalization in, 211, 232-236 Engel's Law, 29-30 postcolonial period in, 235-236 environment state ownership in, 251 climate change and, 89-90 sustainability in, 177 fracking and concerns about, 85 Devlin, J., 267 mineral extraction consequences for, direct payments, 57 178 - 179equity ownership, 231 discontinuities, 175 Doha Round, 54, 55 ETFs. See exchange traded funds



312 Index

Eurex, 143–144	fiscal revenue extraction, 269–277. See
Europe	also taxes
agricultural sector in, 23	fishing, 8–9
imports in, 13	food
industrialization of, 13–14	aid, 21
Everingham, J-A, 179	commodity boom and prices of,
exchange rates	66–67, 127
commodity prices and, 114–115	supply, 12
goals of, 284	foreign aid, 21
in monoeconomies, 284–286	foreign direct investment, 70–71, 244
exchange traded funds (ETFs), 152	for developing countries, 196
Extractive Industries Transparency	nationalization of, 235-236
Initiative, 254–255	outward, 244–245
exhaustibility, 175–176	in state-owned enterprises, 244–245
Exogenous Shocks Facility, 266	foreign exchange reserves, 268-269
exports, 20	forward contracts, 139
of Asia, 44	fossil fuels, 72. See also specific types
of Australia, 44	abundance of, 83–89
evolution of, by commodity groups,	dominance of, 74–77
33	global GDP share of, 75
instability	output values of, 75
economic growth slowed by, 262	fracking, 88
in monoeconomies, 260–269	environmental concerns raised by, 85
savings for prevention of, 268-269	Frank, J, 136
net, from Latin America, 38–41	freight rates, 12–13, 14–15
oil, 44	futures contracts, 138–141, 150
primary commodity values	margins in, 139
as global, 35	volume of, 131
restrictions on	Futures Industry Association (FIA), 130
arguments for, 59–60	1 404100 11144011) 1100001411011 (1 111), 100
detriments of, 60–61	Gaddafi, 81–83
in international commodity trade,	Garcia, P, 136, 154
58–61	Gately, D, 225
of minerals, 59–60	GDP. See gross domestic product
subsidies as, 59	Gecamines, 242–243
of Russia, 44–45	Germany, 190
shares of world, 42–43	Gervais, D, 158–159
in supply disruptions, 187	Ghana, 45, 70
of United States, 44	Ghosh, S C, 260–261
values of, 34, 36	Gilbert, C L, 127, 158, 265
voluntary restraints on, 56–57	Gillis, M, 240, 241
Exxon, 90, 165–166	Global Dairy Trade, 107
Exxon, 70, 103–100	globalization
Fatás, A, 101	defining, 12–13
Fattouh, B, 158–159	
	of natural gas market, 15
FIA. See Futures Industry	primary commodities impacted by,
Association	16–17
financial crisis of 2008, 17–18	golden share, 231
international trade following, 18	Goldman Sachs, 151–152, 153
miancial mivestors 131-134	vovechinent oreea /9



Index 313

oil prices and, 77–78	dependence on, 186
government officials, 1–2	in Europe, 13
the Great Depression, 19, 119, 184,	licenses, 56–57
214–215	net, to Africa, 38–41
greenfield capacity, 126-127	quotas, 56–57
greenhouse gases, 178-179	rich world dependence on, 45–52
Grilli, E R, 102, 103, 166–167, 212	supply disruptions and economy of,
gross domestic product (GDP)	186–188
agricultural product assistance linked	tariffs, 56, 61–63
to, 65	US dependence on, 19
agricultural sector share of, 8	income elasticity of demand, 105
annual growth of, 126	India, 11–12
of Asia, 124–125	mining in, 250–251
calculation of, 28-29	population of, 24
Chinese share of global, 50-51, 125	indigenous people, 180
of developing countries, 270	industrial commodities
fossil fuels share of global, 75	consumption of, 48-49, 53
mining share of, 8	falling demand for, 50–51
primary sector and, 9, 28-29	industrialization
utility share of, 8	of China, 50
A Guide to Primary Commodities in the	of Europe, 13–14
World Economy (Radetzki), 1	of United States, 47
, , , , , , , , , , , , , , , , , , , ,	inflation, during commodity booms,
Haase, M, 158-159	122, 123–124
Hamel, K, 25	Intercontinental Exchange Inc. (ICE),
Hamilton, M, 158–159	132–135, 136, 144
Haniotis, T, 127	Intergovernmental Council of Copper
Harding, T, 280–281	Exporting Countries (CIPEC),
hedges	212, 220
in commodity exchanges, 147–149	Intergovernmental Panel on Climate
long, 149	Change, 89
for price stabilization, 268	international commodity agreements,
short, 147–148	22, 263
Hilson, G, 179	international commodity trade
Hnatkovska, V, 101	commodities and, 33–38
Holder, M E, 143–144	export restriction growth in, 58–61
horizontal drilling, 88	measurement of restrictions in,
Hotelling rule, 165, 167	63–67
Hurricane Katrina, 202	International Energy Agency (IEA), 74,
	87, 90, 170
ICE. See Intercontinental Exchange Inc.	members of, 201–202
IEA. See International Energy Agency	oil stockpiles of, 201–202
Ielpo, F, 138	on supply disruptions, 202
IHS, 85–86	International Monetary Fund (IMF),
IMF. See International Monetary Fund	24, 168–170, 261, 266
IMF Commodity Prices, 114	IMF Commodity Prices, 114
imports, 203	International Standard Industrial
of Asia, 44	Classification (ISIC), 28–29
assurance measures, 198	International Tin Agreement, 140
China and net, 38, 108–109	International Tin Council, 20
Cimia and net, 50, 100 107	international Informer, 20



314 Index

international trade, 26 London Metal Exchange (LME), 62, after financial crisis of 2008, 18 132–135, 140 global production volume and, long hedges, 149 36-38 long-term contracts, 196-197 United States' role in, 115 International Trade Center, 69-70 MacBean, A I, 260-261 intrinsic value, 141 Mali, 70 Iranian Revolution, 201-202 Malthus, T, 161 Iran-Iraq war, 192, 202 manufactures price index, 105 iron ore margins, in futures contracts, 139 demand for, 31 market power, 209 producer cartels, 219-221 marketing boards, 267–268 Irwin, A, 136, 158-159 Martin, W, 55 ISIC. See International Standard Masters, M, 157-158 Industrial Classification Maurice, C, 161 Ismail, K, 280-281 Maxwell, P, 282-283 Iwarson, T, 153 MBD, 83 McDermott, C J, 103 Jacks, D S, 100, 103 McKenzie, S, 179 Jamaica, 215-217 Megginson, W, 249-250 Japan, 46, 47, 69–70 metals. See also rare earth metals Johnson, S, 158-159 demand for, 47 joint sharing arrangements, 198 index, 76 operating cash costs for, 169, 170 strategic, 188 Keniston, D, 280-281 Keynes, J M, 184, 262 Mexico, 78 Kharas, H, 25 middle class, global size of, 24-25 Kilian, L, 158-159 Mihov, I, 101 Kim, J, 61 Mill, J S, 104 mineral products, 71 Kindleberger, C, 283-284 Korean conflict, 20 agricultural products distinguished Korinek, J, 61 from, 30 Kowalski, P, 254 environmental consequences of Kuznets, S, 7 extraction of, 178-179 on agricultural sector, 7-8 export restrictions on, 59-60 extraction of, 180 Latin America, 21, 44 index, 76 as net exporter, 38-41 as national patrimony, 232-235 Lawrence, R Z, 157-158 population density and, 46 Lee, TK, 158-159 royalties on, 275-276 liberalization. See trade liberalization mineral sector light, price of, 182 dependence on, 282-283 liquid natural gas (LNG), 15-16, expansion of, 276 85 - 86international markets of, 253-255 LME. See London Metal Exchange monoeconomies, 282-283 LNG. See liquid natural gas privatizations in, 250 loan write-offs, 57 rent in, 247-248 Loayza, N, 101 state ownership in, 228-229, 232-245 lobbies, agricultural sector, 58 mining, 7, 14–15 Lomé conventions, 266



Index 315

in India, 250-251 Norilsk Nickel, 110 share of, in GDP, 8 North Sea, 50 state ownership of, 232-234 depletion in, 79 monoeconomies, 257, 258-259, oil production in, 79 261-262 Norway, 8-9 commodity dependence of, 256-260 corporate taxes in, 79 exchange rate policies in, 284-286 nuclear utilities, 219 export instability in, 260-269 NYMEX. See New York Mercantile fiscal revenue extraction in, 269–277 Exchange mineral sector, 282-283 oil, 259 OECD. See Organisation for Economic resource curse in, 281-284 Co-operation and Development OFDI. See outward foreign direct monopolistic prices, 95 Morgan, CW, 158 investments Morocco, 217-218 oil, crude multilateral contracts, 21 production increases in, 172-173 Murck, B, 179 shipment of, 67-68 Murphy, K, 158-159, 179 oil crises, 188 MUV index, 121, 123-124 oil exports, 52 World Bank on, 102 world, 44 oil industry, 8-9 national standards, 56-57 monoeconomies, 259 nationalization, 227. See also state nationalization of, 23, 224 privatization in, 251 ownership profits of, 80 in developing countries, 211, 232-236 resource curse and, 80 of foreign direct investment, 235-236 state ownership of, 229 managerial inexperience after, supply disruption in, 190, 192, 193 238-239 of oil industry, 23, 224 oil output, 74, 75 oil prices, 22, 33-34, 77 setting-up costs of, 238 natural gas. See also shale gas decline in, 170, 279 globalization of market for, 15 on energy price index, 123 liquid, 15–16, 85–86 evolution of, 77-83 price evolution of, 76 government greed and, 77-78 regional prices of, 16 macroeconomics of, 77-83 reserve, 168 rises of, 75 US production of, 15-16, 84-85 natural resource demand, 24-26 Nelgen, S, 61 oil production. See also shale oil Netter, J, 249-250 cartels in, 77 New York Mercantile Exchange commodity dependence on, 259 (NYMEX), 110, 132-135, 144 conflicts and, 81 New Zealand, 8-9 costs per barrel, 173 Nguyen, DT, 260-261 depletion and, 81 Nidera, 245 extraction costs, 173 Nigeria, 279 IEA stockpile of, 201-202 nonrenewable resources, 176-178 in North Sea, 79 social sustainability and, 179-180 OPEC and world output of, 224 sustainability and, 178–179 reserves, proved, 230 Nordhaus, W, 89, 182, 183 resources, 172



316 Index

oil production (cont.) postcolonial period, 235-236 in Russia, 79 posted prices, 111 shale, 85 Prain, R, 229 in US, 84-85 Prebisch, R, 104-105 OPEC. See Organization of Petroleum premium, 141 **Exporting Countries** preservation, 31 price elasticity of demand, 207, 219 operating cash costs, for metals, 169, 170 of commodity groups, 32 options, 141-142, 150 estimation of, 210 call, 141 for producer-cartel output, 208 holders of, 141 price elasticity of outside supply, 212 issuers of, 141 price stabilization, 22, 145, 266–267 put, 141, 148 from agreements, 263-264 costs of, 269 volume of, 131 Organisation for Economic Coequilibrium levels for, 265-266 operation and Development government-expenditure volatility (OECD), 38, 61, 64-65 and, 267 Organization of Petroleum Exporting hedging as measure for, 268 with variable demand, 264 Countries (OPEC), 23, 77, 78, with variable supply, 264 170, 205, 215 capacity expansion of, 224 primary commodities decline of, 243 contraction over time in share of, 7 history of, 221-225 defining, 6, 28–29 new strategic partnership of, 223 in economic development, 6-12 global export value for, 35, 36, 37 as producer cartel, 221-225 on quotas, 223 globalization repercussions on, resource curse in, 224-225, 243 16 - 17royalties utilized by, 272 markets, 1 world oil output and, 224 emerging world and, 25-26 Ossowski, R, 267 public intervention in, 19-24 Ostry, J, 260-261 prices of, 2-3 outward foreign direct investments significance of, 7 (OFDI), 244-245 systematic data on, 7 world export shares of, 42-43 over-the-counter (OTC) swaps, 151-152 world production of, 37 overvaluation, 284 primary sectors GDP and, 9, 28-29 Paris Agreement, 89, 90 secondary sectors compared with, Peak Oil, 77, 174 28 - 29Petrobras, 229-230 primary stage, commercial energy at, 51 Petroleum Exporting Countries, 195 primary supply, 32 Petronas, 244 private investors, 274 Petroperu, 78 privatization, 22, 249-252 phosphate rock, 217-218 in mineral sector, 250 physical trade outlets, 142–143 in oil industry, 251 Pindyck, R, 100 producer cartels Poelhekke, S, 262 bauxite, 215-217 population density, 46 copper, 219-221 mineral products and, 46 defining, 205 of USA, 47 formal preconditions for, 205-209



Index 317

iron ore, 219-221 substitutions of, 189 Reagan, R, 22, 249-250 market intervention by, 207 in 1970s, 214-225 refrigeration, 13-14, 31 in oil production, 77 renewable energy, 73-74 OPEC as, 221-225 future expectations for, 89-90 phosphate rock, 217-218 resource booms, 177-178 preconditions for, 209-214 resource curse, 80 price elasticity of demand for output defining, 283-284 of, 208 economic growth and, 80 profit maximization of, 206-207 in monoeconomies, 281-284 success of, 205-209 oil industry and, 80 uranium, 218-219 in OPEC countries, 224–225, producer-dictated prices, 109-110 243 producer power, 211, 225-226 paradox, 283 production chain, 99-100 quantification of, 81 productivity, 105-106 volatility as feature of, 262 in economic development, 9 resource depletion, 161-163, 177 profit maximization, 111, 206 commodity prices and, 167 cost evidence on, 168-173 deviations from, 97 of producer cartels, 206-207 defining, 162-163 social responsibility and, 237 evidence of, 173-175 proportional rod, 231 historical, 162 protectionism, 26-27, 38, 185 long-run price evolution and, in agricultural sector, 46, 54-56 165-167 goals of, 56-58 in North Sea, 79 measurement of, 63-67 oil production and, 81 rationales for, 57 reserve availability and, 163-165 in raw materials, 54-56 threats of, 180-183 in USA, 200 unit price of unexploited resources public ownership. See state ownership and, 167-168 resource rent, 270, 271 public procurement, 57 put options, 141, 148 royalties for extraction of, 272 taxation of, 270-271 Qatar, 45 revenue maximization, 206 quotas, 221-222 Ricardian rents, 240-241 Ricardo, D, 104 Radetzki, M, 1, 3, 88, 119 risk aversion, 187 railroads, 13 RMG Consulting, 232 Rowe, J W F, 212 Ramey, G, 101 rare earth metals, 36-38, 60 royalties, 273, 274-275 in China, 193 advantages of, 272 demand for, 12 defining, 271 supply disruptions of, 193 on mineral products, 275-276 rationing, 189 OPEC utilizing, 272 raw materials, 10-11, 13 for resource rent extraction, 272 in commodity boom, 121 R/P ratios, 165 demand for, 99-100 Russia. See also Soviet Union protectionism in, 54-56 exports of, 44-45 oil production in, 79 rich world dependence on, 45–46 self-sufficiency in, 185 Rystad Energy, 173



318 Index

Sachs, J, 263 STABEX, 266 Sanders, DR, 136, 151-152, 158-159 Standard International Trade Second World War, 19, 20, 235 Classification (SITC), 29-30 Standard & Poor's Goldman Sachs secondary sectors, primary sectors Commodity Index (S&P GSCI), compared with, 28-29 secondary supply, 32 151-152 self-sufficiency, in raw Standby Credit Facility, 266 materials, 185 State Owned Asset Supervision and Senegal, 70 Administration Commission, Shah, S, 136 shale gas, 15–16, 85 state ownership, 97, 227, 273-274 economic benefits of, 85-86 of agricultural sector, 228 global resources, 87 characteristics of, 236-245 in China, 252-253 shale oil, 85 economic benefits of, 85-86 control under, 246-247 production increase, 172-173 in developing countries, 251 shale revolution, 87-88 economic growth and, 229-230 Shanghai Futures Exchange, 132-135 of energy sector, 228-229 short hedges, 147-148 enterprise, 231-232 financial environment under, Simpson, RD, 171 Singer, H, 104-105 240-245 Singleton, K J, 158 firm behavior under, 236-237 SITC. See Standard International Trade foreign direct investment in, 244-245 Classification inefficiencies of, 77 Skinner, B, 171 international mineral markets and, Smith, A, 104 253-255 Smithson, CW, 161 investment behavior under, 240-245 social responsibility, 239 mineral rent under, 247-248 in mineral sector, 228-229, 236-245 profit maximization and, 237 social sustainability, 179-180, 183 of mining, 232-234 socialism, 142, 232-235 motivations for, 232-236 Solomon, F, 179 national economy impacted by, Soviet Union, 22, 142 245-253 ascent of, 19 national goals and, 247-248 bilateral agreements of, 21 of oil industry, 229 collapse of, 222-223 operations under, 238-240 soybeans principal-agent relation under, 246 Chinese consumption of, 62 private sector compared to, 241 tariffs on, 62 steam power, 13 S&P GSCI. See Standard & Poor's steel Goldman Sachs Commodity demand for, 11 Index South Korea use of, 11 speculators tariffs on, 61-62 bubbles caused by, 156-157, Stevens, P, 283-284 158 - 159strategic metals, 188 in commodity markets, 149-151 US stockpiles of, 199-201 commodity prices and, 155-159 strike price, 141 defining, 150 subsidies, 57 destabilization caused by, 156 as export restriction, 59 objectives of, 150 substitutability, 181-182



Index 319

Suran aminin 14	an aarbaana (2
Sugaryana N. 267	on soybeans, 62
Sugawara, N, 267	on steel, 61–62
Sumitomo scandal, 144	of USA, 54–55
Suopajärvi, L, 179	taxes
supply	additional profits, 272–273
commodity prices impacted by, 100	commodity booms and, 280
curves, 93–94, 95–96	corporate, 79
food, 12	resource rent, 270–271
price stabilization with variable, 264	value added, 70
primary, 32	Thatcher, M, 22, 249–250
secondary, 32	Tilton, J, 171, 176
security of, 184–186	tradability, 139
supply disruptions	Trade Expansion Act of 1962,
alleviation of, 192–202	Section 232,
commodity prices and, 186	Trade Integration Mechanism, 266
domestic output and prevention of,	trade liberalization, 23, 26–27, 54
198–199	of agricultural sector, 65–66
export concentration in, 187	in China, 23
IEA on, 202	reform of, 66
import economy and, 186–188	transfer pricing, 109–110
oil industry and impacts of, 190, 192,	Trans-Pacific Partnership, 23
193	transportation, 26
of rare earth metals, 193	bulk, 14–15, 45–46
severity of problems caused by,	costs, 16–17, 105
189–192	global commodity markets and costs
substitution difficulties during, 187	of, 12–18
supplier relations and prevention of,	maritime, 17–18
196–197	refrigerated ships and long-distance,
sustainability and, 186	13–14
sustainability, 161–163, 175–176,	steam-power development and, 13
180–183	technological revolutions in, 16-17
in developing countries, 177	Trump, D, 61–62, 90, 185
economic, 176–178, 183	
nonrenewable resources and,	UN Framework Convention on Climate
178–179	Change, 89
social, 179–180, 183	UNCTAD. See United Nations
supply disruptions and, 186	Conference on Trade and
sustainable development, 175	Development
•	unexploited resources, 167–168
Гаng, K, 158	unit price, 30–31
eariffs, 13	of unexploited resources, 167–168
on aluminum, 61–62	United Kingdom, 79, 184–185
of China, 54–55	United Nations Conference on Trade
escalation, 67–71	and Development (UNCTAD),
for agricultural products, 69-70	29, 70, 261–262
counters to, 70–71	United Nations International Trade
in high-income OECD countries,	Center, 69–70
69–70	United Nations Statistical Office, 28-29
nominal and effective rates in, 69	United States (US), 215-216
import, 56, 61–63	agricultural sector in, 46



320 Index

United States (US) (cont.) Wang, G H K, 136 Chinese trade imbalance with, 58, Wårell, L, 3, 17-18 Warner, A, 263 185 exports of, 44 waste, 74 import dependence of, 19 Western Mining Corporation, 110 industrialization of, 47 white elephants, 281-282 international trade role of, 115 Will, MG, 158-159 natural gas production in, 15-16, Williams, M L, 235-236 84-85 Williamson, J G, 101 Wolff, D, 152-153 oil production in, 84-85 population density of, 47 World Bank, 67, 165-166, 228, protectionist policy in, 200 282-283 strategic metals stockpiles of, on MUV index, 102 199-201 World Bank Commodities Price Data tariffs of, 54-55 (The Pink Sheet), 114 World Trade Organization (WTO), 29, uranium demand for, 219 54, 60, 193 producer cartels, 218-219 China joining, 61 US. See United States Wright, G, 283-284 user-driven prices, 109-110 WTO. See World Trade Organization utilities, 8 Wu, JC, 158-159 Vale, 229-230, 243 Xiong, W, 158 Valenzuela, E., 65-66 value added tax (VAT), 70 Yan, L, 154 Yang, M C, 102, 103, 166–167, 212 van der Ploeg, F, 262 van Eyden, RM, 101 Zaire, 192, 220 variable import levy, 56 VAT. See value-added tax Zambia, 220 Venables, A J, 280-281 copper in, 248-248 very large crude carriers, 67-68 **ZCCM**, 244 voluntary export restraints, 56–57 Zinc, Rio Tinto, 212