Index

actors and their objectives, 147–55
financial investors, 147–48, 151–55
hedgers, 147–48, 147–50, 151
speculators, 147–48, 149–51, 153–59
actual price quotations, 112–13
Adelman, Morris, 163
Africa, 21, 38, 41, 71, 110, 216–17, 224, 246, 268–69
agricultural policies, 23
rich vs. developing countries, 65–67
tariff escalation, 70–71
agricultural sector
commodity booms, 122, 128–30
government influence on, 223–25, 267–69
protectionism and, 58
share of economies, 7–9
alternative trading arrangements
auctions, 107–8
bilateral contracts, 108–9
commodity exchanges, 106–7
and implications for price formation, 106–12
introduction to, 106–7
producer dictated prices, 109–11
transfer prices, 111–12
user driven prices, 111
aluminum, 205–6
Amax Inc., 110
Asia, 24–26, 38–41, 41, 119, 120, 125–26, 225–26
Association for the Study of Peak Oil, 160–61, 164–66
Association of Iron Ore Exporting Countries (APEF), 217
auctions, 107–8
Australia, 9, 15–17, 45, 212, 213–14, 213, 216, 217
average industry costs, 168
backwardation, 140, 145–47, 155–56
Bairoch, Paul, 14
Baltic Dry Index, 18–19
barter trading arrangements, 195
BHP Billiton, 217
bilateral contracts, 108–9
Bloomberg Commodity Index (BCOM), 151–52
BP, 73, 75
Brazil, 41, 213–14, 238–39
buffer stocks, 256–57
bulk carrier fleet, 15
bulk transport revolution, 14–16
call options, 141
Canada, 9, 38–41, 41, 45, 192, 214–16, 216
cartels. See OPEC (Organization of Petroleum Exporting Countries); producer cartels
Centromin, 237–38
cereal imports, 14–15
Chicago Board of Trade (CBOT), 134
Chicago Mercantile Exchange (CME), 134
Chile, 41, 238–39, 268–69
China Development Bank (CDB), 239–40
China Export-Import Bank (CHEMIX), 239–40
China National Cereals, Oils, and Foodstuffs Corporation (COFCO), 239–40
Index

Chinese Bao Steel, 108–9
CIPEC (Intergovernmental Council of Copper Exporting Countries), 208–9, 216–17
Club of Rome, 160–61, 162
CME Group, 134–35
coal, 90
cobalt, 189
Codelco, 238–39, 244
Coffee Agreement, 21
Comibol, 237–38
commercial energy at primary stage, 50–51
Commitment of Traders (COT) report, 157
commodities, importance of in international economy, 33–38
commodity agreements, 256–59
commodity booms, 116–33
agricultural sector, 122, 128–30
annual growth of GDP, 127
commodity price indices in constant dollars, 116
conclusion, 129–33
definition of, 116–21
first, 121–23
growth patterns during, 117–19, 125
introduction to, 116
peaks in constant dollar commodity price indices during, 120–21
quarterly commodity price indices in constant dollars, 126
second, 121–24
third, 124–30
commodity dependence, 249–53, 279–81
commodity exchanges, 106–7
actors and their objectives, 147–55
characteristics of, 133–34
commodities traded on, 137–38
contango and backwardation, 140, 145–47, 155–56
futures and options volume, 133
futures contracts, 139–41, 150
instruments and functions of, 138–47
major exchanges ranked, 135–37
options, 141–43
other impacts, 159–60
overview of, 133–38
physical trade outlet, 142–43
price formation, 143–46
price formation, impact on, 154–60
prices, impact on, 155–59
supply security, 191
Commodity Futures Trading Commission (CFTC), 137
commodity groups
agricultural products vs. mineral products, 29–30
characteristics of, 28–33
food items, 29–30
global exports by, 33–34
International Standard Industrial Classification (ISIC), 28–29
Standard International Trade Classification (SITC), 29–30
storage, ease of, 30
time to add production capacity, 31
unit prices, 30
commodity imports, rich world’s dependence on, 45–52
Commodity Index Fund, 151–52, 153–54
commodity index funds, 151–52
commodity processing, tariff escalation and, 67–73
Commodity Research Bureau (CRB), 151–52
comparative advantage
commodity processing and tariff escalation, 67–73
export restrictions, increase of, 61–65
protectionism in raw materials, 57–60
protectionism, forms of, 59–62
trade restrictions, measuring extent of, 64–67
compensatory finance schemes, 256–57, 258–59
Compensatory Financing Facility (CFF), 258
complacency, about commodities markets, 12
concessional lending, 60
confiscation, 265
consumption developments of industrial commodities, 48–50
export restrictions, increase of, 61–65
protectionism in raw materials, 57–60
protectionism, forms of, 59–62
trade restrictions, measuring extent of, 64–67
compensatory finance schemes, 256–57, 258–59
Compensatory Financing Facility (CFF), 258
complacency, about commodities markets, 12
concessional lending, 60
confiscation, 265
consumption developments of industrial commodities, 48–50
Index

contango, 140, 145–47, 155–56
copper, 94–95, 95, 97–98, 171, 205–6, 
208–9, 216–18, 242–43
corporate concentration, 210
cost evidence, 168–72
cotton, 13–14
currency, 112–13
CVRD, 108–9
De Beers, 109
delivery place, 113
dematerialization, 10–11
Democratic Republic of Congo, 237–38
depletion, 7–28, 160–62
conclusion, 179–82
cost evidence, 168–72
evidence of, 172–74
long run prices, evolution of, 166–67
measurement of, 162
reserves, availability of, 162–66
summary of evidence, 172–74
unit price of unexploited resources,
evolution of, 167–68
direct payments, 60
Doha Round, 57–58
Dutch disease, 270–74
economic development, share of the
primary sector, 9–11
economic diversification, 279–81
economic growth, price volatility and,
98–102
economic sustainability, 174–82
elasticity of demand, 105–6, 209
electronic trading, 135, 136, 151–55
Emerging and Developing Asia, 119, 
120, 125–26
emerging economies, 7, 11
energy consumption by source, 73–75
energy price index, 123–24
Engel’s Law, 29–30
environmental issues, 86–87
environmental sustainability, 176, 181
European Union, 23, 38–41
exchange rates, 113–16, 276–80
exchange traded funds (ETFs), 152
exhaustible resource theory, 32
Exogenous Shocks Facility, 258
export controls, 20
export instability, 20–262
export restrictions
arguments for, 62–63
detriment of, 63–64
increase of, 61–65
export shares, 250–51
export supply, 185
financial crisis of 2008, 31
financial environment of mineral
industry, 235–40
financial investors, 147–48, 151–55
Financial Times, 113
fiscal extraction, 79–81, 262–70
food aid, 21
food markets, 14–15, 14
foreign aid, 21
Former Soviet Union (FSU), 38–41, 41
Fortescue, 217
forward contracts, 139–40
fossil fuels. See also oil
dominance of in commodities
market, 76–79
future abundance of, 84–90
importance of, 76–77
indexes of prices in constant money,
77–78, 77
introduction to, 73–76
oil price evolution, 78–84
fracking, 86
France, 214–16
futures contracts, 139–41, 150
Futures Industry Association (FIA), 131
futures volume, 133
gasoline, 20
gecamines, 237–38
geography of commodity production
and trade, 28–57
China, emergence of as dominant
importer of commodities, 45–52
commodities, importance of in
international economy, 33–38
commodity groups and their
characteristics, 28–33
commodity imports, rich world’s
dependence on, 45–52
conclusion, 54–57
introduction to, 28
provenance and destination of traded
commodity supply, 38–45
Germany, 193, 194, 195
global commodities market, emergence of, 13–19
global exports by commodity groups, 33–34
GlobalDairyTrading (GDT) platform, 107
globalization, 13, 14, 15–18
Goldman Sachs, 151–52
goods and services, value of per kilogram, 10–12
government greed, 79–81
green field capacity, 128–29
gross domestic product (GDP), components of, 28–29
Guinea, 213
hedgers, 147–48, 147–50, 151
herd behavior, 157
historical framework
Asia, emerging role of, 24–26
conclusion, 26–28
declaring transport costs and emergence of global commodity markets, 13–19
introduction to, 7
primary commodities in the economic development process, 7–13
public intervention and control in primary commodity markets, 19–24
resource landscape, transformation of, 24–26
holders of options, 141
Hotelling rule, 166, 167–68
human needs, satisfying, 174–79
Hunt Brothers, 144–45
Hurricane Katrina, 198–200, 199–200
ICE Futures Canada, 134–35
import dependence, 184
import licenses, 60–61
import quotas, 60–61
import tariffs, 60
importing economy, 184–86, 187
indispensability, 184
India, 24–26, 25–26, 213–14
Indonesia, 15–17, 72, 213–14
industrial commodities, consumption developments for, 48–50
inflation, 123, 125
instability, in short run, 98–102
Intercontinental Exchange Inc. (ICE), 134
International Bauxite Association (IBA), 212, 213–14, 213
international commodity agreements, 22–23, 256–59
International Copper Study Group, 216–17
International Energy Agency (IEA), 169–70, 188–89, 198–200, 237
International Financial Statistics, 113
International Monetary Fund (IMF), 169, 258
International Standard Industrial Classification (ISIC), 28–29
International Tin Agreement, 20–21
intrinsic value, 142
investment behavior, in mineral industry, 235–40
Iran, 190
iron ore, 216–18
issuers of options, 141
Jamaica, 212–13, 213–14
Japan, 15–17, 23, 45–51, 51–52, 182, 193, 194
joint sharing agreements, 194–95
Kindleberger, Charles, 275–77
Korea, 15–17
Kuznets, Simon, 7–8
Latin America, 38, 41
London Metals Exchange (LME), 134, 140–41, 142–43, 144
long hedge, 148–50
long run price determination, 91, 92–94, 92
long run prices, evolution of, 166–67
long-term contractual supply arrangements, 193–94
Malaysia, 15–17
Malthus, Thomas, 160–61
manufacturing price index, 105–6
Index

manufacturing sector, 13, 34
marginal project, 168
margins, 139–40
maritime transportation, 17–19
market failure, 244–45
marketing boards, 259–60, 260–61
Metal Bulletin, 113, 144
Metals Week, 113
Middle East, 38–41, 41, 121–23, 237–38
military power, 194
Mill, John Stuart, 104
mineral industry
dependence on, 268–69
distinguishing characteristics of state owned firms, 231–40
financial environment and investment behavior, 235–40
motivations for public ownership in, 229–32
operations, 232–35
mineral rent, 242–43
mining
bulk transport technology, 15–16
share of economies, 7–9
social sustainability, 178–79
state controlled share, 227–29
sustainability, 176–78
monoeconomies
commodity dependence, measurement of, 249–53
conclusion, 279–81
Dutch disease, 270–74
exchange rate policies in, 276–80
export instability, 253–62
fiscal revenue, extraction of, 262–70
introduction to, 249
leading non-fuel commodities, 251–52
Resource Curse, 273–77
monopolistic pricing, 94–95
Monthly Commodity Price Statistics, 113
Morocco, 214–15
multilateral contract, 21
MUV index, 101–2, 121
national economy, impact of state ownership control, 240–42
dissipation and privatization, 244–46
mineral rent, 242–43
other national goal, 243–44
national standards, 60–61
nationalization of resource industries, 21
natural gas, 15–18
natural gas and oil production, 84–86
Netherlands, 192–93
New York Mercantile Exchange (NYMEX), 134, 144–45
New Zealand, 9
Nidera, 239–40
Norilsk Nickel, 110
North Sea, 80–81
Norway, 9, 38–41, 80–81, 192–93
Office Chérifien des Phosphates, 214
oil. See also fossil fuels; OPEC (Organization of Petroleum Exporting Countries)
country share of world exports, 41, 43–45
declining costs, 169–70
deployment, 166–67
discontinuity, 171–72
disruptions, 190
emergency stockpile of, 198–200
importance of, 52–53
monoeconomies, 251–53
nationalization of industry, 219–20
privatizations, 245
production of, 84–86
reserves by company, 225
resource curse, 83
resources and cost of exploitation, 171–72
state ownership, 225–26
U.S oil reserve prices, 167
world oil output and OPEC, 220–21
oil prices, 78–84, 188–89
OPEC (Organization of Petroleum Exporting Countries), 23, 79–80, 144–45, 169–70, 192, 211–12, 217–21, 237–38. See also producer cartels
open outcry systems, 134–35
operating cash costs for three metals, 169–70
operations, in mineral industry, 232–35
options, 141–43, 150
options holders, 141–43
options volume, 133
outward foreign direct investments (OFDI), 239–40
over-the-counter (OTC) swap agreements, 151–52
Peak Oil, 78–79
Pertamina, 241–42
Peru, 268–69
petroleum, 34
Petroperu, 237–38
phosphate rock, 214–15
Phosrock, 214
physical trade outlet, 142–43
political failure, 244–45
population density, 46–48
Prain, Ronald, 224
premium, 141–43, 142
price ceilings, 20
price controls, 22–23
price elasticity, 206, 209
price elasticity of demand, 32–33, 203, 204
price elasticity of supply, 31–32, 204–5
price fluctuations in commodity markets, 98–106
long run price trends, 101–6
short run instability, 98–106
price formation, 90–116
actual price quotations, 112–13
alternative trading arrangements and implications for price formation, 106–12
commodity exchanges and, 143–46
commodity exchanges, impact of, 154–60
exchange rates and commodity prices, 113–16
long run price trends, 98–106
price fluctuations, 98–106
price levels in short and long run, factors determining, 90–95
short run supply schedule, 94–99
price stabilization with variable demand, 257
price stabilization with variable supply, 257
price trends, 90–116
actual price quotations, 112–13
alternative trading arrangements and implications for price formation, 106–12
exchange rates and commodity prices, 113–16
long run, 98–106
price fluctuations, 98–106
price levels in short and long run, factors determining, 90–95
short run supply schedule, 94–99
price volatility, 98–102
prices disrupted commodity supply, 186–88
exchange rates and, 113–16
primary commodities
agriculture and mining, share of economies, 7–9
export volumes, 36
global export values, 33–36
in the economic development process, 7–13
share of world exports for selected countries and commodities, 42–44, 45
significance of at different stages of development, 7
total goods trade by region, 38–41, 41
world production and exports of, 36–38
primary commodities market
1930s Depression, 19–20, 20
collective action, beliefs in, 19–20
colonial empires, breakup of, 19–20
import dependence of the U.S., 19
public intervention and control in, 19–24
Soviet Union, ascendancy of, 19
World War II, 19–20
primary supply, 32
privatization of state owned industry, 244–46
producer cartels, 201–22
actual experiences of in the 1970s, 210–12
Index

bauxite, 212–14
conclusion, 221–22
copper and iron ore, 216–18
formal preconditions for, 202–6
introduction to, 201–2
OPEC, 217–21
other preconditions for, 205–11
phosphate rock, 214–15
uranium, 214–16
producer dictated prices, 109–11
Producer Support Estimates (PSE), 64–65
productivity, 10–11, 106
profit, maximization of, 203
profits tax, 265–66
protectionism
agricultural sector and, 58
forms of, 59–62
in raw materials, 57–60
rationales for, 60–62
proved reserves, 163–66, 163
public intervention, and primary commodities market, 19–24
Public Ledger, 113
public ownership of commodity production, 222–49. See also state ownership
define and quantify state enterprise sector, 226–29
distinguishing characteristics of state owned mineral firms, 231–40
international mineral markets, implications for, 246–49
introduction to, 7, 222–27
motivations for in mineral industries, 229–32
national economy, impact on, 240–46
public procurement, 60
put options, 141
quality, 112
rare earth metals, 12–13, 36–38, 62–64, 63–64, 190–91
raw materials, 57–60
Raw Materials Group, 227
Reagan, Ronald, 21–23, 244–45
recessions, availability of, 162–66
reserves/production multiple (R/P), 162–63, 163–66, 163
resource bonanza. See Dutch disease
resource curse, 81–84
resource depletion, 160–62
conclusion, 179–82
cost evidence, 168–72
long run prices, evolution of, 166–67
measurement of, 162
reserves, availability of, 162–66
summary of evidence, 172–74
unit price of unexploited resources, evolution of, 167–68
resource landscape, transformation of, 24–26
resource rent, 263–64
revenue, maximization of, 203
Ricardo, David, 104
rice, 36–38
Rio Tinto Zinc, 208–9, 217
royalties, 264–65, 265, 267, 268
rubber, 186
Russia, 14–15, 80, 87–88
Saudi Arabia, 45, 218–20
secondary supply, 32
service sector, 13
shale revolution, 84–90
short hedge, 147–49
short run price determination, 91, 92–94
short run supply schedule, 94–99
Smith, Adam, 104
social sustainability, 178–79, 181
sophisticated economies, 13
South Africa, 214–16, 225–26
South Korea, 11–13
Soviet Union, 19, 21–22
Spain, 195
speculative non-U.S. shale impact, 88
speculators, 147–48, 149–51, 155–59
STABEX, 258–59
stabilization funds, 259–61
stage of processing, 112
Standard and Poor’s Goldman Sachs Commodity Index (S&P GSCI), 151–52
revenue, maximization of, 203
producer dictated prices, 109–11
Producer Support Estimates (PSE), 64–65
productivity, 10–11, 106
profit, maximization of, 203
profits tax, 265–66
protectionism
agricultural sector and, 58
forms of, 59–62
in raw materials, 57–60
rationales for, 60–62
proved reserves, 163–66, 163
public intervention, and primary commodities market, 19–24
Public Ledger, 113
public ownership of commodity production, 222–49. See also state ownership
define and quantify state enterprise sector, 226–29
distinguishing characteristics of state owned mineral firms, 231–40
international mineral markets, implications for, 246–49
introduction to, 7, 222–27
motivations for in mineral industries, 229–32
national economy, impact on, 240–46
public procurement, 60
put options, 141
quality, 112
rare earth metals, 12–13, 36–38, 62–64, 63–64, 190–91
raw materials, 57–60
Raw Materials Group, 227
Reagan, Ronald, 21–23, 244–45
recessions, availability of, 162–66
reserves/production multiple (R/P), 162–63, 163–66, 163
resource bonanza. See Dutch disease
resource curse, 81–84
resource depletion, 160–62
conclusion, 179–82
cost evidence, 168–72
long run prices, evolution of, 166–67
measurement of, 162
reserves, availability of, 162–66
summary of evidence, 172–74
unit price of unexploited resources, evolution of, 167–68
resource landscape, transformation of, 24–26
resource rent, 263–64
revenue, maximization of, 203
Ricardo, David, 104
rice, 36–38
Rio Tinto Zinc, 208–9, 217
royalties, 264–65, 265, 267, 268
rubber, 186
Russia, 14–15, 80, 87–88
Saudi Arabia, 45, 218–20
secondary supply, 32
service sector, 13
shale revolution, 84–90
short hedge, 147–49
short run price determination, 91, 92–94
short run supply schedule, 94–99
Smith, Adam, 104
social sustainability, 178–79, 181
sophisticated economies, 13
South Africa, 214–16, 225–26
South Korea, 11–13
Soviet Union, 19, 21–22
Spain, 195
speculative non-U.S. shale impact, 88
speculators, 147–48, 149–51, 155–59
STABEX, 258–59
stabilization funds, 259–61
stage of processing, 112
Standard and Poor’s Goldman Sachs Commodity Index (S&P GSCI), 151–52
Standard International Trade Classification (SITC), 29–30
state ownership, impact of on national economy, 240–46. See also
public ownership of commodity production
control, 240–42
dissillusion and privatization, 244–46
inefficiencies of, 79
mineral rent, 242–43
other national goal, 243–44
steam power, 13–14
steel, demand as fraction of total GDP, 11–13
stockpiling, 195–98, 198–200
strategic metals, 185, 195–98
strategic stocks, 22–23
strike price, 141
substitutability, 13, 185
substitutions, 180–81
Suez crisis, 14–15
Sumitomo scandal, 144–45
super cycle, 119–20
suppliers
choice of, 191–93
tighter relations with, 193–95
supply concentration, 209–10
supply security, 182–201
disruptions, measures to alleviate consequences of, 189–200
disruptions, nature and severity of problems, 186–89
domestic output, promotion of, 195–96
IEA emergency stockpile of oil, 198–200
imported supplies, measures to assure, 194–95
importing economy, disruptions and, 184–86
introduction to, 182–84
stockpiling strategic metals, 195–98
summary, 200–201
suppliers, choice of, 191–93
suppliers, tighter relations with, 193–95
Surinam, 213
sustainability, 184–85
sustainability and threats of resource depletion, 160–82
conclusion, 179–82
cost evidence, 168–72
depletion, evidence of, 172–74
introduction to, 160–62
long run prices, evolution of, 166–67
reserves, availability of, 162–66
satisfying human needs, 174–79
unit price of unexploited resources, evolution of, 167–68
sustainable development, 174
Taiwan, 15–17
tariffs
commodity processing and, 67–73
in high-income OECD countries, 69–71
nominal vs. effective rates, 69–70
shipping costs and, 14
technological progress, dematerialization and, 10–11
Thatcher, Margaret, 21–23, 244–45
time of delivery, 112–13
time value, 142
tin, 140–41
Trade Integration Mechanism, 258
trade policy distortions
commodity processing and tariff escalation, 67–73
export restrictions, increase of, 61–65
protectionism in raw materials, 57–60
protectionism, forms of, 59–62
trade restrictions, measuring extent of, 64–67
trade restrictions, measuring extent of, 64–67
traded commodity supply, provenance and destination of, 38–45
transfer prices, 111–12
Trans-Pacific Partnership, 23
transport costs, 7, 13–19, 105–6
food markets, 14–15
natural gas and, 15–18
Suez crisis, 14–15
unexploited resources, 167–68
unit of measurement, 112–13
Index

United Kingdom, 80–81
United Nations Conference on Trade and Development (UNCTAD), 29–30
uranium, 214–16
user driven prices, 111
utilities, share of economies, 8

Vale, 217, 238
value added taxes, 71–72
variable import levy, 60
voluntary export restraints, 60–61

Wall Street Journal, 113
Western Europe, 45–51, 51–52, 182
Western Mining Corporation, 110
wheat, 13–14, 20
Winnipeg Commodity Exchange, 134–35
world exports, by volume and value, 56–57
World Trade Organization (WTO), 29–30, 57–58
write-off of loans, 60

Zaire, 189
ZCCM, 237–38, 238–39