Index

- Ahmad, J., 93
- Allen–Uzawa elasticity of substitution, 11–12, 29; and technology in optimal trade policy model, 128
- allocative efficiency: and optimal tariff, 247–8
- Argentina: liberalization in, 189 Arrow, K., 113; theorem, 115 Aw, B., 94
- Bahmani-Oskooee, M., 93
- balance of payments, 6; impact of liberalization on, 197, 201–10, 224,
- 227–8. See also payment deficits
- Balassa, B., 33
- Bardhan, P., 90
- Becker, R., 114
- Behrman, J., 150
- Ben-David, D., 95
- Berndt, E., 150
- Bhagwati, J., 187
- Boyd, J., 114
- Brazil: and effective rate of protection, 33; and infant industry argument for protection, 64; and impact of liberalization on employment, 190n8; and success of ISI, 170
- Calvo, Guillermo, 6, 244, 245, 246, 247, 248, 252, 260, 263, 279, 280
- Cameroon: and impact of liberalization on employment, 192
- capital: cost share in model, 151; crowding in of domestic by foreign investment in enclave, 316, 318; crowding out of domestic by foreign, 7, 293–4, 308, 309, 312, 321, 330; elasticities of substitution in model, 150, 151; and foreign investment in enclave, 316; and foreign investment in export sector, 328–30; market distortion, 65, 68–9; in optimal trade policy model, 127, 129–30, 134, 157–61, 171, 180, 184; and plain vanilla foreign investment, 294, 295, 310–12;

and temporary shocks, 240. See also underinvestment

- capital account: and payment deficit, 278-81
- capital stock: transition paths for under plain vanilla foreign investment, 298–304
- CES. See constant elasticity of substitution
- Chenery, H., 149
- Chiang, A., 113
- Chile: and impact of liberalization on employment, 190n7; and impact of liberalization on plant size, 82–3
- China: and foreign investment enclaves, 315
- Choksi, A., 188, 231
- Chung, S., 94
- Clerides, S, 94
- Cnossen, S., 149
- Colombia, 82–3, 94, 151, 153; and success of ISI, 170
- conceptual general equilibrium model, 150
- constant relative risk aversion utility function, 22–5, 49
- constant elasticity of substitution (CES): and duality theory, 10, 22–5; and constant relative risk aversion functions, 40, 42, 49–51, 143. *See also* constant relative risk aversion
- consumer goods imports: impact of foreign exchange auctions on, 228–9
- consumer spending: under temporary liberalization, 243–4
- consumption: impact of lack of credibility on, 291, 292; shares in model, 147, 148; elasticity of substitution in model, 149; distortion, 44, 45; in optimal trade policy model, 129–30
- Corbo, V., 82, 150
- cost function: in duality theory, 9-13
- Cote d'Ivoire: and foreign investment in domestic manufacturing sector, 307; and impact of liberalization on employment, 191; and success of ISI, 170, 186

396 Index

credibility: as factor in success of protectionist policy, 6, 64, 65; impact on labor adjustment rate of, 211-12, 213, 230-1; lack of as cause for fiscal deficits, 282-5; and temporary shocks, 233-4; and private sector savings, 244-6 CRRA. See constant relative risk aversion de Melo, J., 82, 151, 152 demand: and welfare in duality theory, 16 - 25Dervis, K., 151, 152 Dixit, A, 111-12 Dollar, D., 95 domestic manufacturing sector: foreign investment in, 307-14; and joint ventures, 334-42 Dominican Republic: and consumer import tariffs, 2n1 dynamic optimization, 113-16 economies of scale: and procompetitive effects, 72-83 Ecuador: and impact of liberalization on employment, 190n8 Edwards, S., 92, 95 effective rates of protection (ERP), 31-4, 173, 174 elasticities of substitution, 273; in foreign investment model, 306-7; as parameter values in model, 149, 150-1 employment: long-run effects of trade policy changes on, 158-61. See also underemployment employment: and foreign investment, 293; short-run effect of compensated devaluation on, 195-7. See also underemployment; labor enclave: foreign investment in, 294, 314-25 Esfahani, H., 92 expenditure function: and welfare and demand in duality theory, 18-19 export promotion, 2, 5-6; compared to import substitution, 62-96 and infant industry argument, 62–5; and factor market distortions, 65–72; and scale economies and procompetitive effects, 72-83; and productivity growth, 83-96 export requirements: of foreign investment, 295 export sector: cost shares in model, 151, 153 export subsidies: and tariffs, 168-70; in

optimal trade policy, 176, 180, 183-4

factor substitution: and input demands in duality theory, 10-13 factor markets: and optimal tariff, 173 factor demands: in optimal trade policy model, 127-30 Falvey, R., 260 Feder, G., 94 FI. See foreign investment First Welfare Theorem, 34 fiscal reserves: and credibility, 292 fiscal surplus: inadequate fiscal adjustment disguised as, 286–91 foreign reserves, 6; and credibility, 274-8; as defense against self-fulfilling failures of liberalization, 265-78. See also payment deficits; balance of payments foreign exchange auctions: and liberalization, 228-9 free trade: and administrative costs, 124; as first-best, 34-62; limitations of, 61-2; and research and development, 89. See also optimal trade policy; liberalization Ghana: and impact of liberalization on employment, 191 GNP. See gross national product Gorman, W., 20 government budget constraint: in optimal trade policy model, 130 Greenaway, D., 282, 284 Gregory, P., 150 Griffin, J., 150 gross national product (GNP), 21; as function in duality theory, 13-16 Grossman, G., 89 Handoussa, M., 92 Harris, J., 66, 67 Harrison, A., 93 Helpman, E., 89 Hotelling's lemma, 14 Hsiao, M., 93

import sector: cost shares in model, 151 import-substituting industrialization (ISI), 5–6, 30, 73, 124; effective rates of protection, 31–4; and factor market distortions, 65–72; and infant industry argument, 62–5; and labor, 188; and maximum technical efficiency, 85; in optimal trade policy, 185; and productivity growth, 83–96; and scale economies and procompetitive effects, 72–83

India: and impact of liberalization on

Index

employment, 190n6 indirect utility function: and welfare and demand in duality theory, 17-18 Indonesia: and effective rate of protection, 33 infant industry argument: as justification for protection, 62-5 informal sector: and wages in optimal trade policy, 180-1 input demands: and factor substitution patterns in duality theory, 10-13 intermediate inputs: in optimal trade policy, 125; and primary factors in model, 150; impact of foreign exchange auctions on imports of, 228-9; quotas for, 222-8 intertemporal elasticity of substitution, 272, 276; as parameter value in model, 149 investment: in optimal trade policy model, 129-30; q-elasticity of in model, 154; transition paths for under plain vanilla foreign investment, 298-304 Israel: and impact of liberalization on employment, 190n6, 190n8 joint ventures: and foreign investment, 7, 295 jump variables, 116; in optimizing dynamic economic models, 103-4, 107-8 Kamien, M., 113 Kenva: and success of ISI, 170; and impact of liberalization on employment, 191 Kim, C., 260 Krueger, 70, 187 Kurz, M., 113 Kwon, A., 93 labor: and capital in model, 150; gains under protection, 161-70; market distortion, 42, 44, 65 Larch, S., 94

- LDCs. See lesser developed countries
- Leontief technology, 9, 12
- Lerner symmetry theorem, 95n64
- lesser developed countries (LDCs): overview of trade policy in, 30; decline in protectionist policies in, 2 Levine, R., 92
- Levine, R., 92 liberalization: liberalization, 6; and fiscal deficits, 281–91; and lack of empirical evidence for pro-competitive effects, 81–3; and proportional tariff reduction,

252, 257-8. See also temporary

- liberalization; tariff; trade policy linear differential equations, 98–113 Little, I., 33, 171, 205 Lucas, R., 129
- Lucas Critique, 53, 54
- lump-sum taxes, 157
- Malawi: and impact of liberalization on employment, 192 Malavsia: and foreign investment enclaves,
- 314; and success of ISI, 170
- Mangasarian sufficiency theorem, 115
- manufacturing sector: value added share of import-competing as parameter in model, 154
- maquiladoras, 293n1, 314
- marginal rate of substitution (MRS), 34
- marginal rate of transformation (MRT), 34
- Marshallian demand function, 17, 19
- Martin, J., 83
- Matsuyama, K., 63 Mauritius: and foreign investment
- enclaves, 315
- maximum technical efficiency: adverse effect of protection on, 83–5
- Meier, G., 326
- Mellor, P., 150
- Mexico 94, 153; and success of ISI, 170; and impact of liberalization on employment, 190n7; and impact of liberalization on plant size, 82–3
- Michaely, M., 188, 231
- Milner, C., 282, 284
- Mitra, P., 171
- model calibration: under temporary liberalization, 254–7; for underemployment and underinvestment, 147–57; for plain vanilla foreign investment, 306–7
- Mohtandi, H., 93
- Morishima elasticity of substitution, 12n3
- Morocco, 94
- Mozambique: and impact of liberalization on employment, 192
- National Bureau of Economic Research (NBER), 65, 70, 153, 187, 188, 190, 192
- net national product (NNP), 159t, 161, 162t
- Nicaragua, 151; and impact of liberalization on employment, 190n8, 191
- Nishimizu, A., 92
- nontradables sector: cost shares in model, 153

398 Index

Ogaki, M., 149 oligopoly, 72, 80 optimal control: and dynamic optimization problems, 113-16 optimizing dynamic general equilibrium model, 3-4 Organization for Economic Cooperation and Development (OECD), 70 Ostry, J., 149 Pack, H., 90 Page, J., 92 Pakistan: and success of ISI, 170 Papgeorgiou, D., 188, 231 parameter values: in model calibration, 147-57 payment deficits: and consumption booms, 291, 292; and self-fulfilling failure model, 262-5; under sustained liberalization, 265-7 Peru: and impact of liberalization on employment, 190n8 phase diagrams, 100-4, 108-12 Philippines: liberalization in, 189, 190n8 prices: of goods and factors in optimal trade policy model, 125-8 primary export sector: and foreign investment, 323-5 primary factors: and intermediate inputs in model, 150 Principal of Targeting, 34-7, 57, 60, 62, 63; administrative costs as limitation of, 38-48, 49 private time preference rate, 147, 176; and foreign investment, 294 private dissaving: and fiscal adjustment shortfall, 288, 291 production subsidy. See subsidy production distortion, 44 production function: in duality theory, 9 productivity growth: studies of openness and, 91-6; impact of trade policy on, 83-96 protection: and labor demand, 70-2; and imperfect competition in general equilibrium model, 73-80; and employment, 161-8; and export promotion, 168-70; rules-of-thumb for optimal, 171–4. See also quotas; tariffs quotas, 26, 27; critique of, 32-3; decline of, 2; and foreign investment, 306-7, 325-6;

for intermediates, 231; temporary liberalization compared with tariff cuts, 260–1. *See also* tariffs real output: long-run effects of trade policy changes on, 158-61 Reinhart, C., 149 Renelt, D., 92 research and development: and endogenous growth models, 87-90 returns to scale: and cost function, 13 revenue function: in duality theory, 13-16 Rivera-Batiz, F., 90 Roberts, M., 82, 94 Robinson, S., 151, 152 Rodriguez, F., 95, 96 Rodrik, D., 86, 95, 96, 171, 248, 255 Romer, P., 90 Roy's identity, 17-18, 21, 24 Sachs, J., 95 saddle points, 139; and optimal control, 116; in optimizing dynamic economic models, 102, 104-7 saddlepath: in optimal trade policy model, 136; under self-fulfilling failure, 267 savings: distortion under temporary liberalization, 244-61. See also capital accumulation Schwarz. N., 113 Scitovsky, T., 171, 205 Scitovsky, T., 33 Scott, M., 33 Scott, M., 171, 205 Second Welfare Theorem, 34 sectoral wage gap: as parameter in model, 153 Seierstad, A., 113 Sen, A., 68 Serra-Puche, J., 153 Shabsigh, G., 93 shadow elasticity of substitution, 12n3 Shafik, N., 154 Sheehey, E., 94 Shepard's lemma, 10, 18, 26, 27, 128, 297 Sierre Leone: and foreign exchange auctions, 229; and impact of liberalization on employment, 191 social safety net: and trade balance under liberalization, 206-11 social welfare: maximization problems under temporary liberalization, 244-6 social time preference rate, 176; and foreign investment, 294; as parameter value in model, 147 South Asia: and import-substituting trade policy, 2

South Korea, 51, 94; and infant industry argument for protection, 64, 65

Index

Spain: liberalization in, 189; 190n8 Sri Lanka: and foreign investment enclaves, 315 Stackelberg leader: union or government as, 55-62 steady-state equilibrium: in optimal trade policy model, 133-4; for plain vanilla foreign investment, 304-6; rate of adjustment to, 174, 176 Stolper-Sameulson theorem, 72 Sub-Saharan Africa: and impact of liberalization on employment, 190-3; and import-substituting trade policy, 2 subsidy: compared to tariff, 37, 38-62 Sudan: and impact of liberalization on employment, 191 supply: and duality theory, 8-16 Sydsaeter, K., 113 Syrquin, M., 149 Taiwan, 94; and infant industry argument for protection, 64, 65 Tanzania: and impact of liberalization on employment, 191, 192 tariffs, 26; and allocation of resources of, 31; compared to subsidy, 38-62; impact on capital accumulation, employment and output, 160, 174; optimal ex ante vs optimal stopping point, 214-17; as procompetitive compared to quota, 80; reduction of, 2; and welfare, 35-8. See also quotas; effective rates of protection tax revenue: and foreign investment, 293 Taylor, L., 155 technology transfer, 86-7; and foreign investment, 7, 293, 295 technology: in optimal trade policy model, 127 - 30temporary liberalization: and optimal policy rule, 249-54; and self-fulfilling failures, 267-72 Thailand: and success of ISI, 170 Todaro, M., 66, 67 Tornell, A., 63 trade balance: and social safety nets under liberalization, 206-11 trade distortion, 44; and foreign investment, 325 trade gains: relative to saving distortion, 247-61 trade policy debate, 2-3, 4-5 trade-investment related measures (TRIMs), 325n17 transition path: in optimal trade policy model, 134-41; and impact of

liberalization on unemployment, 197–201

transitory unemployment: and credibility, 211; welfare costs of, 212–17. *See also* unemployment; employment; wages Tybout, James, 82, 94

Uganda: and foreign exchange auctions, 229; and impact of liberalization on employment, 191

- underemployment: and capital accumulation, 160; and foreign investment in enclave, 316; and foreign investment in export sector, 326, 328–30; and foreign investment in joint ventures, 335, 338–9, 440; and free trade, 61; and optimal trade policy, 125; and optimal tariff vs. subsidy, 39–48; and plain vanilla foreign investment, 294, 308–10, 312; and rules-of-thumb for optimal tariffs, 171–4; and wage differential, 66–8
- underinvestment, 176; and rules-of-thumb for optimal tariffs, 171–4; and free trade, 61; and optimal trade policy, 125
- unemployment: impact of lack of credibility on, 291, 292; transitory, 6; and optimal tariff cuts, 259; as production distortion, 15
- unemployment compensation: and fiscal deficits, 285; and liberalization, 208
- unions: and wage demands, 49–51; or government as Stackelberg leader, 55–62
- Urguay: and impact of liberalization on employment, 190n7
- value added (VA), 42; and effective rates of protection, 31
- value added tax (VAT), 124, 125, 126, 149, 170, 184; as parameter value in model, 149–50; in optimal trade policy model, 130

wage differential: as production distortion, 15; and unemployment and underemployment, 66–8

- wage subsidy: compared to protective tariff, 48-62
- wages: and capital decumulation, 240; in optimal trade policy model, 127, 180 Warner, A., 95
- welfare: and demand in duality theory, 16–25; and export requirement for foreign investment, 325, 330–1; and

400 Index

foreign investment in an enclave, 315–23; in optimal trade policy model, 141–2; and plain vanilla foreign investment, 294, 312–14 Westbrook, D., 82 Wood, D., 150 World Bank study, 187; short comings of, 188–90

Yugoslavia: and impact of liberalization on employment, 190n8

Zambia: and foreign exchange auctions, 229; and impact of liberalization on employment, 191–2 Zervos, S., 92

Zimbabwe: and foreign investment in domestic manufacturing sector, 307; and impact of liberalization on employment, 191