

## INDEX

- Absorption
  - overview, 39
  - approach to current account
    - analysis, 48–50
  - monetary policy and shocks to, 132
  - in United States, 40–42
- Acquisition or disposal of nonproduced, nonfinancial assets, 231
- Actual output, potential output versus, 8–9
- Adaptive view of inflation expectations, 84
- Additional Tier 1 (AT1) capital, 198
- Adjustment policies, 208
- Advanced countries
  - balance sheet crises in
    - overview, 215
    - assessment framework, 217–222
    - emerging markets compared, 216
  - Financial Sector Assessment Program (FSAP), 217–218
  - defined, 12–13
  - potential output in, 14–20
- Aggregate demand, supply potential and, 28–30
- Aggregate expenditure approach, 30–33
- Aid inflows, 235
- Analysis of Reserve Adequacy (ARA), 263–264
- Asian countries
  - crisis and private sector debt, 261
  - crisis as cause of heightened
    - attention to central bank reserves, 238
  - global imbalances and, 248
- Asymmetry of concerns about current account imbalances, 247
- Automatic stabilizers
  - overview, 160–162
  - discretionary policy action versus, 163–168
- Autonomous or above the line transactions, 233
- Balance of payments (BOP)
  - approach to current account
    - analysis, 48
  - capital account, 230–231
    - acquisition or disposal of nonproduced, nonfinancial assets, 231
    - unilateral transfers, 230–231
  - components of, 228–229
  - current account, 229–230
    - primary income flows, 229, 234–235
    - secondary income flows, 229
    - services account, 229
    - trade account, 229
  - current transfers, 229

## Index

269

- defined, 226–227
- exercises, 264–267
- financial account, 231
  - employee stock options, 232
  - financial derivatives, 232, 235
  - foreign direct investment (FDI), 231, 235
  - functional presentation, 231–232
  - other investments, 232
  - portfolio investment, 231–232, 235
- flows and, 226–227
- net errors and omissions, 232–233, 235
- net income flows, 229
- official reserve flows and official foreign exchange intervention, 232, 233
- overall balance, 233
- in Poland, 229–230
- projections, assessing credibility, 233–235
  - of aid inflows, 235
  - of derivatives and other inflows, 235
  - of exports, 233–234
  - of financial account flows, 235
  - of foreign direct investment (FDI), 235
  - of imports, 234
  - of portfolio investment, 235
  - of primary income flows, 234–235
- real effective exchange rates (REER) and, 245–247
- Balance of Payments Manual (IMF), 228. *See also* External account crises
- Balance sheet crises
  - in advanced countries
    - overview, 215
    - assessment framework, 217–222
    - emerging markets compared, 216
  - Financial Sector Assessment Program (FSAP), 217–218
  - capital account crises, 254–256
  - in emerging markets
    - overview, 206–207
    - advanced countries compared, 216
    - assessment framework, 213–215
    - difficulties in assessing vulnerabilities, 209–215
    - effects of, 207
    - example, 207–208
  - Financial Sector Assessment Program (FSAP), 213
  - foreign currency deposits and, 209–213
  - IMF and, 208
  - surging capital inflows and, 214–215
- exercises, 223–224
- external crises, vulnerability to, 251–256
  - in Ireland, 216
  - in Japan, 216
  - in United States, 216
- Balance sheets
  - capital in, 193–194
  - financial stability and, 193
- Balassa-Samuelson effect, 78–82, 91, 100, 246
- Bank for International Settlements (BIS), 197
- Banking book
  - assets in external vulnerability analysis, 262
  - trading book versus, 200
- Banking sector balance sheets
  - overview, 115–119
  - algebraic representation, 118
  - central banks (*See* Central banks)
  - commercial banks, 116–117
  - effect of government bond financing on, 137
  - inferences about monetary policy from, 119–120
  - measures of money supply, 119

- Bank of England, 219
- Bank recapitalizations and budget, 153
- Bank Recovery and Resolution Directive (EU), 205
- Bank regulation
  - overview, 193
  - banking book, 262
  - banking book versus trading book, 200
  - capital and
    - overview, 195, 196–197
    - appropriate levels, 202–203
    - capital adequacy ratio, 198, 202–203
    - capital conservation buffer, 199
    - CET1 ratio, 199
    - counter-cyclical buffer, 199
    - on Global Systemically Important Banks (GSIBs), 199
    - potential problems requiring, 194–195
    - provisioning, 196–197
    - requirements, 198–199
    - on sovereign exposure, 199
    - Tier 1, 199
    - vis-à-vis risk-weighted assets, 198–199
  - funding and, 194–195
  - leverage ratio requirement, 199, 202
  - liquidity and, 195–196
  - liquidity coverage ratio, 199–200
  - macro-prudential regulation, 191, 203–204, 205–206
  - micro-prudential regulation, 191
  - minimum standards, 204–205
  - net stable funding ratio, 199–200
  - nonbank sector and, 205
  - potential problems requiring, 194–195
  - reserve requirements, 196
  - resolution of insolvency, 205
  - “stress testing,” 205
  - trading book, 200, 262
  - Value at Risk Models, 200–202
- Barro, Robert, 27
- Basel Committee on Banking Supervision (BCS), 197–198
- Basel I, 197
- Basel II, 197
- Basel III, 197, 198, 199, 204
- Basel Phase-In Arrangements, 201–202
- Base money. *See* Monetary base
- Base money multiplier
  - defined, 119
  - interpreting changes in, 120
- Big Mac Index (*The Economist*), 70
- Borio, Claudio, 203
- Bowdoin College, 1–2
- Brazil
  - government financial sustainability in, 179–181
  - public debt dynamics in, 179–181
- Bretton Woods period
  - defined, 99
  - evolution, 99–100
- “Brexit,” 221
- Budget projections, credibility of
  - overview, 155
  - buoyancy and, 155–157
  - elasticity and, 155–157
  - expenditure, 157–158
  - public gross financing requirement (PGFR), 158–159
  - revenue, 155–157
- Bulgaria
  - currency boards in, 106
  - hyperinflation in, 140–141
  - monetary policy in, 140–141
  - National Bank of Bulgaria (BNB), 140–141
- Bundesbank, 101
- Buoyancy, 155–157
- Bureau of Economic Analysis (US), 40, 42
- Bureau of Labor Statistics (US), 74

## Index

271

- Business cycle
  - origin in demand, 8
  - stylized example, 8
- Business environment, influence on
  - total factor productivity (TFP), 25
- Canada
  - GDP in, 32
  - inflation targeting in, 102
- Capital account, 230–231
- Capital account crises, 254–256
- Capital as input to production
  - continuous inventory estimate, 15–16
  - deepening, 14
  - defined, 11
  - depreciation, 15–16
  - downward sloping curve for
    - marginal product of, 21
  - input to potential, 15–16
  - marginal revenue product of, 21
  - measurement, 14
  - procedures as demand side of
    - market for, 20–21
  - vintage, 15–16
- Capital flow controls, 214–215
- Capital flow management measures (CFM), 264
- Capital/labor ratio (K/L)
  - capital deepening in advanced countries and, 14–20
  - channels of income convergence in
    - open economies and, 26–27
  - comparison in advanced and developing countries, 12–14
  - relationship to output per worker and TFP, 12–14
  - role of increase of in income convergence, 22–23
  - savings as source of increase in, 23
- Capital of financial institutions
  - in balance sheets, 193–194
- bank regulation and
  - overview, 195, 196–197
  - under Basel III, 199
- capital adequacy ratio, 198, 202–203
- capital conservation buffer, 199
- CET1 ratio, 199
- counter-cyclical buffer, 199
- on Global Systemically Important Banks (GSIBs), 199
- potential problems requiring, 194–195
- provisioning, 196–197
- requirements, 198–199
- on sovereign exposure, 199
- vis-à-vis risk-weighted assets, 198–199
- Common Equity Tier 1 (CET1)
  - capital, 198, 199, 218
- countercyclical capital buffers, 203
- Tier 1 capital, 198, 199
- Tier 2 capital, 198, 199
- Capital surges, 214–215
- Central banks
  - balance sheets, 115–116
    - base money (*See* Monetary base)
    - currency in circulation, 115
    - net domestic assets (NDA), 116
    - net foreign assets (NFA), 116
    - other items net (OIN), 116
    - required/excess commercial bank reserves, 115
    - reserves of commercial banks at
      - central bank, 115
  - foreign reserves, 238
    - defined, 238
    - gross, defined, 238
    - gross versus net, 238
    - heightened attention to after Asian crisis, 238
  - IMF Analysis of Reserve Adequacy (ARA), 263–264
  - net, defined, 238

- Central banks (cont.)
  - role in vulnerability analysis, 262–264
  - independence of, 108–111
  - intervention in foreign exchange markets, 134–135
  - monetary policy committees (MPCs), 102, 112–113
  - response to government financing needs
    - overview, 136–139
    - external current account deficits, effect on, 138
    - interest rates, effect on, 137
    - risk premia, effect on, 138
  - sterilization by, 134–135
  - use of reserve requirements, 115
  - vulnerabilities, effect of actions on (See Vulnerabilities)
- Central counterparties, 218
- Central Europe, estimating potential growth, 20
- Chained volume indexes, 58–59
- Chile, effect of copper price declines in, 242–244
- China, global imbalances and, 248–249
- Closed external financial accounts, 103–104
- Cobb-Douglas production function
  - overview, 86
  - constant returns to scale, 12
  - decreasing marginal product of capital and labor, 12
  - defined, 11–12
  - marginal product of capital and labor, 12
- Collective action clauses (CACs), 237
- Colombia, Flexible Credit Line (FCL) and, 254
- Common Equity Tier 1 (CET1) capital, 198, 199, 218
- Common shocks, 252–253
- Competitiveness
  - Big Mac Index (*The Economist*) and, 70
  - Consumer Price Index (CPI) and, 77
  - external accounts as indicator of, 245–247
  - GDP deflator and, 77
  - measures of, 246
  - price index or traded–nontraded measures of, 75–82
  - real effective exchange rate, 73–75
  - real exchange rate, 72–73
  - relative price changes and overview, 70–72
  - price index measures, 75–82
  - purchasing power parity (PPP), 70–72
  - traded–nontraded measures, 75–82
  - ULC measures of, 72–75
  - unit labor costs (ULC) and, 65–66
- Congressional Budget Office (US), 186
- Constant prices, equivalence to “real” measures, 7–10
- Constraints, understanding, 2
- Consumer Price Index (CPI)
  - overview, 59–60
  - competitiveness and, 77
  - “core” CPI, 59
  - GDP deflator versus, 59–60
  - inflation targeting and, 110
  - partition of, 66–67
  - traded versus nontraded goods, 66–67
- Consumption
  - as component of GDP, 38
  - nondurable/durable distinction, 34
- Contagion
  - overview, 208
  - actions to reduce risks of, 253

## Index

273

- defined, 252–254
- as distinct from common shocks
  - and spillovers, 252–253
- need for international lender of last resort and, 254
- vulnerability to, 253
- Convergence hypothesis, 27–28
- Copper price shocks, 242–244
- “Core” CPI, 59
- Countercyclical macroeconomic policy, 8–9
- Countercyclical monetary policy
  - overview, 120–121
  - central bank balance sheets and, 121–128
  - Federal Reserve System balance sheet and, 121–128
  - Fed Funds rate, 123–124
  - open market operations (OMO), 121–123
  - quantitative easing (QE), 124–128
- “Crawling peg” regime, 263
- Credit default swaps, 192
- Crisis triggers, identifying, 3
- Currency boards
  - in Bulgaria, 105–107
  - defined, 105–106
  - in Estonia, 105–106
  - inflation and real appreciation in, 106
  - in Lithuania, 105–106
- Current account, 229–230
- Current account of balance of payments (CAB)
  - absorption approach, 48–50
  - absorption approach to, 39
  - adjustment to shock to, 47–51
  - balance of payments approach, 48
  - effect of aid transfer shock in developing country on, 45–47
  - GNDI, relationship to, 36–37
  - investment-savings approach, 50
  - savings-investment balance, 38
  - shocks involving, 47–51
  - in US
    - relationship to expenditure, saving and investment data, 40–42
    - relationship to fiscal policy, 40–42
- Current prices, data measured in, 40
- Current transfers. *See* Secondary income flows
- Cyclical fluctuations. *See* Business cycle
- Data-based view of inflation
  - expectations, 84
- Debt dynamics of government
  - in Brazil, 179–181
  - effect of inflation on, 174–178
  - public debt sustainability analysis (DSA), 169
  - sustainability and, 178–183
- Deficits of government, effect of inflation on, 172–174
- Deflation, 57, 113–114
- Demand
  - government, in GDP, 33–34
  - private, in GDP, 34–35
- Demand side
  - overview, 28–30
  - aggregate expenditure approach, 30–33
  - durable versus nondurable consumption, 34
  - final domestic demand versus inventory accumulation, 34
  - forecasting economic activity, 42–45
  - imports and exports, effect of, 35–36
  - private demand, 34–35
  - real resource constraint, 37–42
  - sources of demand, 33–38
- Depository institutions (DIs), defined, 115

- Developing countries, potential
  - output in
  - overview, 22–23
  - defined, 12–13
  - effects of aid transfer shock in, 45–47
  - income catch-up
    - in economies closed to capital inflows, 23–24
    - in economies open to capital inflows, 26–27
  - income convergence and, 27–28
- Discretionary expenditure of government, 157–158
- Discretionary policy action by government
  - overview, 162–163
  - automatic stabilizers versus, 163–168
- Dodd-Frank Act (US), 205
- Doing Business* (World Bank), 25–26
- Dollarization, 108
- Domestic absorption (GDA). *See* Total domestic demand
- Domestic stability, external accounts and, 241–245
- Dornbusch, Rudiger, 5
- Dot-com bubble, 18, 34
- Dual mandate, 111
- Durable consumption, 34
- “Dutch Disease,” 77–79
- Dynamic Stochastic General Equilibrium (DSGE) Models, 113
- Eastern Europe, production function approach and, 20
- Economic activity. *See also* Gross domestic product (GDP)
  - forecasting, 17–19
  - measures of, schematic summary, 38
- The Economist*, 70
- Elasticity of government revenues, 155–157
- Emerging market countries
  - balance sheet crises in
    - overview, 206–207
  - advanced countries compared, 216
  - assessment framework, 213–215
  - difficulties in assessing vulnerabilities, 209–215
  - effects of, 207
  - example, 207–208
- Financial Sector Assessment Program (FSAP), 213
- foreign currency deposits and, 209–213
- IMF and, 208
- surging capital inflows and, 214–215
- defined, 12–13
- Employee stock options, 232
- Employment, structural
  - impediments to, 15
- Estonia, currency boards in, 105–106
- Europe, global imbalances and, 248–249
- European Central Bank, 110–111
- European Commission, 74
- European Union
  - Bank Recovery and Resolution Directive, 205
  - banks in, 218–221
  - Basel III and, 197
- Exchange rate risk
  - difficulty of measuring exposure to, 261
  - external debt and, 237
- Exchange rates
  - overview, 55
  - competitiveness and, 70–82
  - international financial linkages and, 87–92
- Expenditure, aggregate expenditure approach, 30–33

## Index

275

- Export-driven growth model
  - overview, 239–240
  - measuring success of, 240
- Exports
  - assessing credibility of projections, 233–234
  - in balance of payments approach to analysis of current account shock, 11–12
  - as component of GDP, 32–33
  - demand, effect on, 35–36
  - export-driven growth, 239–240
  - net exports, contribution to growth, 240–241
  - in Poland, 241
- External account crises
  - overview, 251–256
  - capital account crises (*See* External financial account crises)
  - causes of, 251–252
  - flow account crises, 254
- External accounts
  - conventions regarding, 228
  - defined, 225–226
  - domestic implications of, 226
  - objectives of analysis of
    - overview, 239
    - competitiveness, 245–247
    - country's growth model, 239–241
    - global imbalances, 247–250
    - use of foreign saving for
      - expenditure smoothing after shock, 241–245
    - vulnerability to external financing crisis, 251–256
- External Balance Assessment (EBA) Model, 250–251
- External debt
  - collective action clauses (CAC)
    - and, 237
  - defined, 236–237
  - domestic debt, characteristics
    - differentiating from, 237
    - exchange rate risk and, 237
    - issuance under foreign law versus domestic law, 237
    - net versus gross, 236–237
    - qualitative considerations of risk
      - characteristics, 260–262
    - sustainability analysis (DSA), 257–260
- External debt sustainability analysis (DSA)
  - overview, 257–260
  - sensitivity analysis, 259–260
- External equilibrium, 108–110
- External financial account crises
  - overview, 251–256
  - Analysis of Reserve Adequacy (ARA), 263–264
  - debt characteristics and, 260–262
  - exchange rate risks and, 261
  - external debt sustainability (DSA), 257–260
  - foreign direct investment (FDI)
    - and, 260
  - foreign exchange reserves and, 262–264
  - interrelationships of debt holders
    - and, 262
  - liquidity of foreign assets and, 261
  - maturity mismatches and, 261
  - risk assessment, 256–257
  - vulnerabilities to, 251–256
- External financial accounts (EFAs)
  - management policies in emerging markets, 103–104
  - monetary policy and, 131–132
  - open versus closed accounts, 103–104
- External shocks, monetary policy and, 132–136
- External stock accounts
  - overview, 235–236
  - BOP flows versus, 226–227
  - central bank reserves and, 238



- External stock accounts (cont.)
  - changes in valuation of, 227
  - effects of exchange rate changes on value of, 227
  - external debt and, 235–236
- External terms of trade, 60–61, 75
- External transactions
  - accrual versus cash basis, 228
  - defined, 228
- Fear of floating, 178, 211
- Federal Reserve System (US)
  - countercyclical capital buffers, 203
  - countercyclical policy and overview, 120–121
  - Fed Funds rate, 123–124
  - open market operations (OMO), 121–123
  - quantitative easing (QE), 124–128, 129
  - defined, 100, 121
  - dual mandate, 111
  - liquidity requirement, 200
  - Open Market Committee (OMC), 102, 111, 121
  - real exchange rate (RER) data, 74
  - structure of, 121
- Fed Funds rate, 123–124
- Final domestic demand in GDP, 34
- Financial account, 231
- Financial crises
  - burst bubbles, 216
  - insidious crises, 216
- Financial Crisis of 2008
  - arbitrage between banking book and trading book, 216
  - causes of, 216
  - liquidity imbalances, 216
  - structured financial products, 216
  - value at risk calculations, 216
- Financial flow controls, 214–215
- Financial institutions
  - bank recapitalizations, 153
  - “too important to fail,” 192–193, 204
- Financial sector assessment
  - in advanced countries, 217–222
  - as part of IMF surveillance, 218–219
  - in UK, 217–218
- Financial Sector Assessment Program (FSAP), 213, 217–218
- Financial sector regulation, 193
- Financial sector supervision, 193
- Financial soundness indicators, 219
- Financial stability
  - overview, 191–193
  - balance sheets and, 193
  - dangers of instability, 192
  - exercises, 223–224
  - fiscal system, effects of instability on, 192–193
  - leverage and, 191–192
- Financial surges, 214–215
- Financial system, 115
- Fiscal impulse, 162
- Fiscal multiplier
  - in Greece, 166–168
  - size of, 165–166
- Fiscal rules
  - overview, 183–184
  - in Chile, 184
  - debt ceiling to GDP ratio, 185
  - “golden rule,” 185
  - structural balance and, 184
  - in Switzerland, 184
  - in United Kingdom, 184–185
- Fiscal stance, 162
- Fiscal system
  - overview, 147–149
  - budget projections
    - overview, 155
    - buoyancy and, 155–157
    - elasticity and, 155–157
    - expenditure, 157–158
    - public gross financing requirement (PGFR), 158–159

## Index

277

- revenue, 155–157
- exercises, 188
- financial instability, effects of, 192–193
- fiscal rules
  - overview, 183–184
  - in Chile, 184
  - debt ceiling to GDP ratio, 185
  - “golden rule,” 185
  - structural balance and, 184
  - in Switzerland, 184
  - in United Kingdom, 184–185
- government accounts
  - overview, 149
  - accrual versus cash basis, 154
  - bank recapitalizations and, 153
  - basic identities, 153
  - current spending (or “expenses”), 151
  - fiscal year, 150
  - flow data, 155
  - fungibility in, 149
  - general government, 149
  - Government Finance Statistics Manual (GFSM) and, 150, 154–155
  - grants, 150–152
  - gross operating balance (or government saving), 151, 154
  - net acquisition of financial assets and, 152–153
  - net acquisition of nonfinancial assets (investment), 151
  - net operating balance (or government saving), 154
  - net worth (stock versus flow measure), 154
  - nonfinancial public sector, 149
  - “other revenue,” 150–152
  - overall balance (or net lending), 151, 153, 154
  - in Poland, 150–151
  - privatization and, 152
  - public sector financial enterprises, 149
  - reading of, 150–155
  - saving-investment balance, 153–154
  - seigniorage, 153
  - social insurance, 149
- stabilization
  - overview, 159–160
  - automatic stabilizers, 160–162
  - debate between automatic stabilizers and discretionary policy action, 163–168
  - discretionary policy action and, 162–163
  - fiscal multiplier and, 165–166
  - GDP and, 162
  - output gaps and, 163–165
  - primary fiscal balance and, 161
  - in recessions, 163
  - social security (social insurance), 149
  - structural fiscal balance and, 160, 163–165
- sustainability
  - overview, 168–169
  - in Brazil, 179–181
  - broader perspective, 178–183
  - debt sustainability, 171
  - debt sustainability analysis (DSA), 178–183
  - defined, 171–178
  - fiscal sustainability, 171
  - IMF and, 170, 182
  - inflation, effect of, 172–174
  - level of debt ratio stabilization and, 181–183
  - primary structural balance and, 172
  - public debt sustainability, 171
  - public gross financing requirement (PGFR) and, 182

- Fiscal system (cont.)
  - risk premia and, 178
  - sensitivity to shocks and, 182–183
  - thought experiments, 186–188
- Fischer, Stanley, 5
- Fisher Volume Index, 59
- Flexible Credit Line (FCL), 254
- Flows versus stocks, 226–227
- Forecasts
  - accelerator model for private fixed investment, use of, 43–44
  - accounting for microeconomic optimization in, 44
  - assumption of marginal propensity to consume, 43
  - checking for internal consistency of, 44
  - of economic activity, 17–19, 42–45
  - of GDP and demand components, 43–44
  - life cycle hypothesis for private consumption, use of, 43–44
  - medium- to long-term (*See* Potential output)
  - permanent income hypothesis for private consumption, use of, 43–44
  - projections versus, 42
- Foreign balance
  - in GDP, 33–34
  - in national accounts and balance of payments accounts, 35
- Foreign currency deposits, 209–213
- Foreign direct investment (FDI), 23, 231, 235, 260
- Foreign reserves of central banks
  - defined, 238
  - gross, defined, 238
  - gross versus net, 238
  - heightened attention to after Asian crisis, 238
- IMF Analysis of Reserve Adequacy (ARA), 263–264
- net, defined, 238
- role in vulnerability analysis, 262–264
- Foreign savings, use to smooth expenditure after shock, 241–245
- Forward exchange rates, 88
- Free on board (f.o.b.), 228
- Frictional unemployment, 15, 160
- Friedman, Milton, 96, 130–131
- Full employment, 160
- Fully effected financial transfer
  - competitiveness and, 46
  - defined, 45
  - importance of status of output gap, 45–46
  - in presence of spending on nontraded goods, 45
  - raising living standards, effect on, 46
  - structural reform and, 46
  - when spending on nontraded goods, 46
  - when spending on traded goods, 46
- Funding, bank regulation and, 194–195
- GDP deflator
  - competitiveness and, 77
  - Consumer Price Index (CPI) versus, 59–60
  - defined, 57
  - inflation targeting and, 110
- Germany, global imbalances and, 248
- Ghana, “resource curse” and, 78–79
- Global imbalances
  - causing disorderly adjustment, 249
  - defined, 247–250
  - external balance assessment (EBA) of, 250–251
- Globalization, 225–226
- Global systemically important banks (GSIBs), 199, 204

## Index

279

- Global zero external balance
  - constraint, 247–248
- Gold, monetary holdings of, 238
- “Golden rule,” 185
- Governance, influence on total factor productivity (TFP), 25–26
- Government expenditure
  - credibility of budget projections and, 157–158
  - current expenditure (expenses), 151
  - discretionary expenditure, 157–158
  - investment (net acquisition of nonfinancial assets), 151
  - nondiscretionary expenditure, 157–158
- Government Finance Statistics Manual (GFSM), 150, 154–155
- Government financing, monetary policy and. *See* Central banks
- Government revenue
  - buoyancy of, 155–157
  - credibility of projections, 157–158
  - elasticity of, 155–157
- Greece
  - fiscal multiplier in, 166–168
  - standby arrangements (SBAs), 167, 168
  - 2010 fiscal crisis, 166–168
  - 2010 fiscal crisis case study, 5
- Gross domestic product (GDP)
  - aggregate expenditure approach, 30–33
  - in Canada, 32
  - defined, 7–8
  - exercises, 51–52
  - fiscal stabilization and, 162
  - GNI versus, 35–37
  - government debt ceiling to GDP ratio, 185
  - government spending in, 35
  - income-based measurement, 31–32
  - inflation and, 58–59
  - measurement of, 7–8
  - aggregate expenditure approach to, 30–33
  - income approach to, 30, 31–32
  - at market prices, 31–32
  - output- or production-based measurement, 31
  - production approach to, 31–32
  - media commentary, 1
  - per capita, 22
  - relative price changes and, 58–59
  - value added, 7–8
- Gross national disposable income (GNDI)
  - in absorption approach to current account analysis, 47
  - defined, 36–37
- Gross national income (GNI), 35–37
- Gross national savings
  - defined, 38
  - in investment saving approach to analyzing current account shock, 47
  - measurement of, 42
- Gross operating balance (or government saving), 151, 154
- “Helicopter money,” 130–131
- Hicks–Hansen Model, 165
- Hodrick–Prescott filters, 16
- Housing and housing finance in UK, 218–221
- Human capital, influence on total factor productivity (TFP), 25
- Imports
  - assessing credibility of projections, 234
  - in balance of payments approach to analyzing current account shock, 47
  - as component of GDP, 32–33
  - demand, effect on, 35–36
  - substitution growth model, 239

- Import substitution, 239
- Impossible (unholy) trinity
  - inflation targeting and, 103, 108
  - interest rates and, 90
  - monetary policy and, 98–99
- Imputed currency misalignments, 70
- Income convergence
  - in closed economies, avenues for, 23
  - defined, 22–23
  - empirical evidence on hypothesis, 27–28
  - in open economies, avenues for, 26–27
- Income gap between advanced and developing countries, sources of, 23–24
- Indirect taxes on factors, accounting for in income-based measure of GDP, 31–32
- Indonesia, economic contagion and, 252
- Inflation
  - overview, 54
  - chained volume indexes, 58–59
  - Consumer Price Index (CPI), 59–60, 66–67
  - costs and inefficiencies, 56
  - deflation versus, 57
  - effects of, 56
  - exercises, 92–94
  - expectations, 53, 84–86, 90, 91, 103, 139
  - external terms of trade and, 60–61
  - Fisher Volume Index, 59
  - GDP deflator, 59–60
  - GDP measurement and, 58–59
  - government debt dynamics, effect on, 174–178
  - government deficits, effect on, 172–174
  - government financial sustainability, effect on, 174–178
  - ideal levels of, 57
  - inflation targeting, 102–105 (*See also* Inflation targeting (IT))
  - interest rates, inflation expectations and
    - overview, 83–87
    - adaptive view, 84
    - data-based view, 84
    - rational view, 84
    - static view, 84
  - in Israel, 60
  - Laspeyres Index, 58
  - measurement of, 57
  - non-accelerating inflation rate of unemployment (NAIRU), 15–16, 55–56
  - Paasche Index, 58–59
  - Phillips Curve and, 55–56
  - relative price changes and, 56–57
  - unit labor costs (ULC) and, 64
- Inflation targeting (IT)
  - advantages of, 105
  - in Canada, 102
  - considerations in, 112–113
  - defined, 102
  - deflation and, 113–114
  - dual mandate, 111
  - Dynamic Stochastic General Equilibrium (DSGE) Models, 113
  - excessive leverage and, 114
  - exchange rate flexibility and, 108
  - impossible (unholy) trinity and, 103, 108
  - Mundell–Fleming Model and, 108–110
  - in New Zealand, 102
  - policy instruments in, 102–103
  - policymaking, 108–114
  - price index targeted, 110
  - quantitative easing (QE) and, 113–114
  - setting inflation target, 110–111

## Index

281

- in Sweden, 102
- Taylor Rule, 111–112
- in UK, 102
- weaknesses of, 105
- Inflation tax, 97–98
- Infrastructure, influence on total
  - factor productivity (TFP), 25
- Inputs to production. *See also* Capital
  - as input to production; Labor
  - algebraic representation, 11
  - defined, 7
- Interest arbitrage, 90–92
- Interest rates
  - overview, 54, 82
  - cyclically neutral real interest rate
    - defined, 111–112
    - importance of, 112
  - exercises, 92–94
  - government financing and effect on
    - interest rates under, 137
  - impossible (unholy) trinity, 90
  - inflation expectations and
    - overview, 83–87
    - adaptive view, 84
    - data-based view, 84
    - rational view, 84
    - static view, 84
  - interest arbitrage, 90–92
  - international financial linkages
    - and, 87–92
  - preferred habitat, 88
  - real exchange rates (RER) and,
    - 90–92
  - real interest rates, 85–87, 90–92
  - risk premia, 88–90
  - uncovered interest parity, 88
- Intermediate consumption, 31
- Internal equilibrium, 108–110
- Internal terms of trade, 75
- International financial linkages,
  - 87–92
- International Monetary Fund (IMF)
  - generally, 1–2
- Analysis of Reserve Adequacy
  - (ARA), 263–264
- Article IV Consultation Reports, 80,
  - 218–221, 236, 256
- Balance of Payments Manual,
  - 228
- Bulgaria, support of, 107
- classification of countries by, 12–13
- economic contagion and, 253–254
- emerging market balance sheet
  - crises and, 208
- estimates of potential growth in
  - advanced countries, 17–19
- External Balance Assessment
  - (EBA) Model, 250–251
- external financial account
  - management policies and,
    - 104
- Financial Sector Assessment
  - Program (FSAP), 213, 217–218
- Flexible Credit Line (FCL), 254
- forecasting economic activity and,
  - 43
- foreign exchange reserves, scrutiny
  - of data on, 238
- Government Finance Statistics
  - Manual (GFSM), 150, 154–155
- government financial sustainability
  - and, 170, 182
- as international lender of last resort,
  - 254
- Precautionary Credit Line, 254
- public gross financing requirement
  - (PGFR) and, 158
- Risk Assessment Matrix, 221
- Special Drawing Rights (SDRs)
  - and, 232, 238
- standby arrangements (SBs), 167,
  - 168
- 2008 financial crisis and, 17–19
- 2010 Consultation Report, 80
- 2016 Consultation Report, 218–221
- United Kingdom and, 218–219

- International Monetary Fund (cont.)
  - World Economic Outlook (WEO), 164, 185
- Intervention in foreign exchange markets, 134–135
- Inventory accumulation, 34
- Investment
  - on building structures or plant, 34
  - fixed investment as component of GDP, 32–33
  - inventory
    - business cycle and, 34
    - as component of GDP, 32–33
  - in investment-saving approach to analyzing current account shock, 47
  - on machinery and equipment, 34
- Investment-savings approach, 50
  - approach to current account analysis, 50
- Ireland
  - balance sheet crises in, 216
  - GDP versus GNI in, 36–37
- IS-LM Model, 109, 165
- Israel, inflation in, 60
- Japan
  - balance sheet crises in, 216
  - deflation in, 113
  - global imbalances and, 248
- Keynes, John Maynard, 29, 165
- Keynesian revolution, 29
- Kornfeld, Robert, 42
- Kuwait, GDP versus GNI in, 36–37
- Labor
  - downward sloping curve for
    - marginal product of, 21
  - force participation rate, 17, 19
  - input, measurement of, 15
  - labor force, defined, 15
  - marginal product of, 21
  - marginal revenue product of, 21
  - potential input of, 15
  - potential output, inputs of labor for
    - purposes of, 15–16
  - producers as demand side of market
    - for, 20–21
    - skill level, 16
- Laspeyres Index, 58
- Latvia, 2008 crisis case study, 5
- Lawson Doctrine, 260–261
- Lean against the wind. 135, 244
- Lesotho, GDP versus GNI in, 36–37
- Leverage, 191–192
- Leverage ratio requirement, 199, 202, 218
- Linkages across borders,
  - characterizing, 4
- Lipschitz, Leslie, 26–27
- Liquidity
  - overview, 191
  - bank regulation and, 195–196
  - Federal Reserve System and, 200
  - of foreign assets, 261
  - liquid asset ratios and, 196
  - liquidity coverage ratio, 199–200
  - maturity transformation and, 195
  - required reserves and, 196
- Lithuania, currency boards in, 105–106
- “Living wills,” 205
- Loss given assumed default, 199
- Macedonia, precautionary and liquidity
  - line agreements and, 254
- Macroeconomic imbalances, 54
- Macroeconomic relationships, 44
- Macroeconomic sustainability,
  - respecting demands of, 2–3
- Macro-prudential regulation
  - overview, 203–204, 205–206
  - cross sectional dimension, 203
  - measures, 218–221
  - time dimension, 203
  - TTTF banks and, 204

## Index

283

- Malaysia, economic contagion and, 252
- Mankiw, M. Gregory, 5
- Marginal product analysis, 20–21
- Marginal product of labor, 21
- Marginal revenue product of labor, 21
- Maturity mismatches, 261–262
- Maturity transformation, 195
- Mexico, Flexible Credit Line (FCL) and, 254
- Mishkin, Frederick, 5
- Mobility of labor and capital across countries, 26–27
- Monetary accounts  
   defined, 115  
   reading main monetary balance sheets (*See* Banking sector balance sheets)
- Monetary base  
   base money multiplier and, 119  
   defined, 115  
   seigniorage and, 97–98
- Monetary policy  
   in Bulgaria, 140–141  
   countercyclical policy (*See* Countercyclical monetary policy)  
   external financial accounts and, 131–132  
   frameworks (*See* Monetary policy frameworks)  
   impossible (unholy) trinity and, 98–99  
   inflation tax and, 97–98  
   intervention, 134–135  
   monetary policy committees (MPCs), 102, 112–113  
   open versus closed external financial accounts, 103–104  
   prudential regulation and, 205–206  
   seigniorage and, 97–98  
   sterilization, 134–135  
   vulnerabilities, effect on (*See* Vulnerabilities)
- Monetary policy committees (MPCs), defined, 102
- Monetary policy frameworks  
   overview, 96–99  
   currency boards, 105–107 (*See also* Currency boards)  
   defined, 96  
   dollarization, 108  
   impossible (unholy) trinity and, 98–99  
   inflation targeting (IT) (*See* Inflation targeting (IT))  
   money supply targeting (*See* Money supply targeting)  
   reserve currency anchor as, 99–100
- Monetary Survey, 117
- Money demand equation  
   defined, 101  
   diminishing confidence in stability of, 102
- Money supply targeting  
   defined, 101–102  
   German Bundesbank example, 101  
   reasons for demise of, 102
- Morocco, precautionary and liquidity line agreements and, 254
- Mundell–Fleming Model, 108–110, 166
- National accounts data  
   current account of balance of payments and, 35  
   defined, 30  
   measures of economic activity, schematic summary, 38  
   US data, illustration of concepts using, 40  
   use of identities in, 29–30
- National Bank of Bulgaria (BNB), 140–141



- National Bureau of Economic Research (NBER), 121
- Natural rate of unemployment, 55–56
- Net acquisition of financial assets, 152–153
- Net acquisition of nonfinancial assets (investment), 151
- Net errors and omissions, 232–233, 235
- Net factor income from abroad (NFI)
  - in balance of payments approach to analyzing current account shock, 11–12
  - defined, 35–37
  - financial wealth invested abroad and, 36–37
  - illustrations of countries where large, 36–37
  - investment from non-residents and, 36–37
- Netherlands, “resource curse” and, 77–79
- Net income flows. *See* Primary income flows
- Net international investment position (NIIP)
  - overview, 235–236
  - defined, 226–227
  - external debt and, 235–236
- Net operating balance (or government saving), 154
- Net stable funding ratio, 199–200
- Net transfer to or from abroad (TR)
  - in balance of payments approach to analyzing current account shock, 11–12
  - defined, 36–37
- New aid transfers, 45–47
- New Zealand, inflation targeting in, 102
- Nominal effective exchange rate, 74
- Non-accelerating inflation rate of unemployment (NAIRU), 15–16, 55–56
- Nonbank financial sector, 205
- Non-debt creating external financing
  - defined, 258
  - as part of country’s debt profile, 260
- Nondiscretionary expenditure, 157–158
- Nondurable consumption, 34
- Non-performing loans (NPLs), 208
- Non-residents, 228
- Nontraded goods
  - competitiveness, measurement of, 75–82
  - Consumer Price Index (CPI) and, 66–67
  - defined, 46
  - purchasing power parity (PPP) and, 71–72
  - relative price changes and, 66–67
  - traded goods versus, 66–67
  - in US, 78–79
- Norway, “resource curse” and, 78–79
- Numeraire currency, 227–228
- Official foreign exchange intervention
  - defined, 232
  - role in thwarting equilibrium exchange rate adjustment, 249
  - vulnerability to contagion and, 253
- Oil exporters, global imbalances and, 248
- Open external financial accounts, 103–104
- Open Market Committee (OMC), 102, 111, 121
- Open market operations (OMO)
  - defined, 121–123
  - Federal Reserve System balance sheet, effect on, 125–126
  - Fed Funds rate and, 123
- Organization for Economic Co-operation and Development (OECD)

## Index

285

- forecasting economic activity, 43
- real exchange rate (RER) data, 74
- Original sin (currency denomination of public debt), 159
- Output gap
  - overview, 163–165
  - defined, 8–9
  - importance in how financial transfers effected, 46
- Output per worker, 14
- Overall balance, 233
- Own-currency debt, 159
- Paasche Index, 58–59
- Panama, dollarization in, 108
- Percentage changes versus percentage point contributions, 33
- Peru, effect of copper price declines in, 242–244
- Philippines, economic contagion and, 252
- Phillips Curve, 55–56
- Poland
  - balance of payments (BOP) in, 229–230
  - exports in, 241
  - Flexible Credit Line (FCL) and, 254
  - government accounts in, 150–151
- Policy options, consideration of, 3
- Political and economic stability, influence on total factor productivity (TFP), 26
- Portfolio investment, 231–232, 235
- Potential output
  - actual output versus, 8–9
  - in advanced countries, 14–20
  - bubbles, influence of, 17–20
  - cyclically adjusted GDP versus, 14
  - in debate regarding monetary, fiscal, and financial sector policies, 14–20
  - defined, 8
  - demographics, influence of, 17–18, 19
  - in developing countries
    - overview, 22–23
    - income catch-up in economies closed to capital inflows, 23–24
    - income catch-up in economies open to capital inflows, 26–27
    - income convergence and, 27–28
  - estimating, 12–14
    - in advanced countries, 14–20
    - in developing countries, 22–28
  - production function approach, 11, 14–20
  - trend line approach, 14–17
- inputs of labor and capital, 15–16
- level versus growth rate, 19
- structural change and, 20
- understanding drivers of, 11–12
- uses of concept, 10–11
- Precautionary and liquidity line (PLL) agreements, 254
- Preferred habitat, 88
- Price indexes
  - Consumer Price Index (CPI)
    - overview, 59–60
    - competitiveness and, 77
    - “core” CPI, 59
    - GDP deflator versus, 59–60
    - partition of, 66–67
    - traded versus nontraded goods, 66–67
  - external terms of trade and, 60–61
  - GDP deflator, 57
    - competitiveness and, 77
    - Consumer Price Index (CPI) versus, 59–60
    - measures of competitiveness, 75–82
- Prices
  - overview, 53–55
  - deflation, 57
  - exercises, 92–94

- Primary fiscal balance, 161
- Primary income flows
  - defined, 229
  - projections, assessing credibility of, 234–235
- Primary structural balance, 161, 172
- Privatization, 152
- Probability of default, 199
- Production function. *See* Potential output
- Production function approach, 14–20
- Productive potential. *See* Potential output
- Profits, accounting for in income-based measure of GDP, 31–32
- Public debt sustainability analysis (DSA), 169
- Public gross financing requirement (PGFR), 158–159, 182
- Public sector financial enterprises, 149
- Public sector nonfinancial enterprises, 149
- Purchasing power parity (PPP), 70–72
- Quantitative easing (QE)
  - central bank procedures in, 124–128
  - defined, 113–114
  - Federal Reserve System balance sheet, effect of, 129
- Rational view of inflation
  - expectations, 84
- Reading of data, 2
- Real economic activity
  - overview, 7–10
  - exercises, 51–52
  - questions regarding, 9–10
- Real effective exchange rates (REER), 73–75, 245–247
- Real estate bubbles, 207–208
- Real exchange rates (RER)
  - overview, 72–73, 90–92
  - appreciation of under currency board, 106
  - changes when nominal exchange rate fixes, 100
- Real interest rates, 85–87, 90–92
- Real measures, 7–10
- Real resource constraint, 37–42
  - defined as identity, 37–38
  - domestic absorption, role of, 39
  - equilibrating price and activity mechanisms behind identity, 40
  - fiscal policy, role of, 39
  - private investment, role of, 39
- Regulatory arbitrage, 204–205
- Relative price changes
  - overview, 54
  - Balassa–Samuelson effect and, 78–82
- Big Mac Index, 70
- competitiveness and
  - overview, 70–72
  - price index measures, 75–82
  - purchasing power parity (PPP), 70–72
  - traded–nontraded measures, 75–82
  - ULC measures of, 72–75
- distributional and allocative effects, 56–57
- “Dutch Disease” and, 77–79
- exercises, 92–94
- GDP measurement and, 58–59
- inflation and, 56–57
- macroeconomic effects, 61–62
- “resource curse” and, 77–79
- traded versus nontraded goods and, 66–67
- unit labor costs (ULC)
  - overview, 62–63
  - competitiveness and, 65–66
  - derivation, 62–63
  - inflation and, 64
  - in manufacturing sector, 63

## Index

287

- productivity and, 63
- profits and income distribution and, 64–65
- Relative unit labor costs, 245–247
- Repos, defined, 121–123
- Reserve currency anchor, 99–100
- Reserve position at IMF, 238
- Reserve requirements
  - overview, 196
  - as monetary policy instrument, 115
- Reserve tranches, 238
- Residents
  - defined, 228
  - government as, 228
- Resolution plans, 205
- “Resource curse,” 77–79
- Revenue, credibility of budget
  - projections and, 155–157
- Reverse repos, defined, 121–123
- Ricardian Equivalence, 162
- Risk assessment matrix, 221
- Risk assessment of vulnerabilities to
  - external crises, 256–257
- Risk premia
  - overview, 88–90
  - sustainability and, 178
- Sala-i-Martin, Xavier, 27
- Saving, 42
- Saving-investment balance of
  - government, 153–154
- Savings. *See* Gross national savings
- Secondary income flows
  - defined, 229
  - projections, assessing credibility of, 235
- Seigniorage
  - overview, 153
  - defined, 96–97, 153
  - inflation tax and, 97–98
- Services account, 229
- Shocks
  - overview, 45
  - absorption approach, 48–50
  - balance of payments approach, 48
  - CAB, involving, 47–51
  - common shocks, 252–253
  - external, 241–245
  - to global risk aversion, 251–256
  - investment-savings approach, 50
  - monetary policy and, 132–136
  - new aid transfers as, 45–47
  - sustainability, sensitivity of
    - government finances to shocks and, 182–183
  - tracing effects of new aid transfers, 45–47
- Slovakia, Balassa–Samuelson effect in, 78–82
- Small country assumption, 68–69
- Social insurance, 149
- Social security, 149
- South Africa
  - non-accelerating inflation rate of unemployment (NAIRU) in, 16
  - 2013 case study, 5
- South Korea, economic contagion and, 252
- Special Drawing Rights (SDRs)
  - as component of central bank reserves, 238
  - defined, 238
  - identified, 232
- Spillovers, common shocks and contagion versus, 252–253
- Stabilization role of fiscal policy
  - overview, 159–160
  - automatic stabilizers, 160–162
  - cyclically-adjusted fiscal balance, 160
  - debate between automatic stabilizers and discretionary policy action, 163–168
  - discretionary policy action and, 162–163

- Stabilization role (cont.)
  - fiscal multiplier and, 165–166
  - GDP and, 162
  - output gaps and, 163–165
  - over the cycle (counter-cyclical policy), 159–160
  - primary fiscal balance and, 161
  - in recessions, 163
  - structural fiscal balance and, 160, 163–165
- Standby arrangements (SBAs), 167, 168
- Startz, Richard, 5
- Static view of inflation expectations, 84
- Sterilization, 134–135
- “Stress testing,” 205, 218–221
- Structural fiscal balance, 160, 163–165
- Structural impediments, 15
- Structural policies (or conditions)
  - advice from IMF, OECD, and World Bank, 27–28
  - defined, 10
  - TFP and, 23–24
- Subsidies to factors, accounting for
  - income-based measure of GDP, 31–32
- Supply side
  - overview, 10–11
  - employment and, 20–21
  - investment and, 20–21
  - measurement of potential output (See Potential output)
- Sustainability, macroeconomic,
  - respecting demands of, 2–3
- Sustainability of government finances
  - or government debt dynamics
  - overview, 168–169
  - algebra of debt dynamics, 171–172
  - in Brazil, 179–181
  - broader perspective, 178–183
  - debt sustainability, 171
  - debt sustainability analysis (DSA), 178–183
  - defined, 171–178
  - exchange rate effect on, 174–178
  - fiscal sustainability, 171
  - IMF and, 170, 182
  - inflation, effect of, 174–178
  - level of debt ratio stabilization and, 181–183
  - primary structural balance and, 172
  - public debt sustainability, 171
  - public gross financing requirement (PGFR) and, 182
  - risk premia and, 178
  - sensitivity analysis and shocks and, 182–183
- Sweden, inflation targeting in, 102
- Switzerland, fiscal rules in, 184
- Tariffs, 239
- Taylor, John, 111
- Taylor Rule, 111–112
- Technology, influence on total factor productivity (TFP), 25
- Thailand
  - economic contagion and, 252
  - GDP versus GNI in, 36–37
- Tier 1 capital, 198, 199
- Tier 2 capital, 198, 199
- “Too important to fail,” 192–193, 204
- Total domestic demand
  - in GDP, 33–34
  - in real resource constraint, 39
- Total factor productivity (TFP)
  - overview, 11
  - business environment and governance, influence of, 25–26
  - defined, 11
  - in developing countries
  - overview, 22–23
  - advanced countries versus, 12–14

## Index

289

- income catch-up in economies
  - closed to capital inflows, 23–24
- income catch-up in economies
  - open to capital inflows, 26–27
- income convergence and, 27–28
- human capital, influence of, 25
- influences on, 24
- infrastructure, influence of, 25
- marginal product of labor and
  - capital, effect on, 24
- measurement issues, 11, 14
- political and economic stability,
  - influence of, 26
- technology, influence of, 25
- Trade account, 229
- Traded goods
  - competitiveness, measurement of, 75–82
- Consumer Price Index (CPI) and, 66–67
- nontraded goods versus, 66–67
- purchasing power parity (PPP) and, 71–72
- relative price changes and, 66–67
- small country assumption, 68–69
- spending in aid flow shock in
  - developing countries, 46
- Trading book
  - assets in vulnerability analysis, 262
  - banking book versus, 200
- Turkey, flow account crises in, 254
- Uncovered interest parity, 88
- Unemployment
  - frictional unemployment, 15, 160
  - full employment and, 160
  - inflation and, 55–56
  - natural rate of, 55–56
  - non-accelerating inflation rate of unemployment (NAIRU), 15–16, 55–56
  - Phillips Curve and, 55–56
  - structural unemployment rate (*See* Non-accelerating inflation rate of unemployment (NAIRU))
- Unholy (impossible) trinity
  - inflation targeting and, 103, 108
  - interest rates and, 90
  - monetary policy and, 98–99
- Unilateral transfers, 230–231
- United Kingdom
  - banking system in, 17–20
  - Bank of England, 219
  - banks in, 218–221
  - “Brexit,” 221
  - financial bubble and potential growth estimates, 17–20
  - Financial Sector Assessment Program (FSAP) and, 218
  - fiscal rules in, 184–185
  - gold standard in, 29
  - IMF and, 218–219
  - inflation targeting in, 102, 110–111
  - nonbank sector in, 205
  - output gaps in, 163–164
  - structural fiscal balance in, 163–164
  - Vickers Report, 202
- United States
  - absorption in, 40–42
  - balance sheet crises in, 216
  - banks in, 218–221
  - Basel III and, 197
  - Bureau of Economic Analysis, 40, 42
  - Bureau of Labor Statistics, 74
  - CAB in, 40–42
  - Congressional Budget Office, 186
  - countercyclical monetary policy during 2000s in, 120–121
  - Dodd-Frank Act, 205
  - dollar as reserve currency, 99–100
  - global imbalances and, 248–249
  - income convergence in, 28

- United States (cont.)
  - non-accelerating inflation rate of unemployment (NAIRU) in, 16
  - nontraded goods in, 78–79
  - Open Market Committee, 102, 111, 121
  - Volker Rule, 202
- Unit labor costs (ULC)
  - overview, 62–63
  - competitiveness and, 65–66
  - derivation, 62–63
  - inflation and, 64
  - in manufacturing sector, 63
  - productivity and, 63
  - profits and income distribution and, 64–65
- Value-added in concept of GDP, 7–8
- Velocity of money, defined, 120
- Vickers Report (UK), 202
- Volker Rule (US), 202
- Vulnerabilities
  - assessing
    - difficulties in, 209–215
    - tipping points, 209
  - effect of monetary policy on
    - overview, 128–132
    - absorption, when responding to, 132
    - external shocks, when responding to, 132–136
    - government financing, when accommodating, 136–139
  - to external financial account crises
    - overview, 251–256
- Analysis of Reserve Adequacy (ARA), 263–264
- Capital Flow Management
  - measures (CFMs) and, 264
  - from contagion, 252–253
  - debt characteristics, 260–262
  - from exchange rate risk, 261
  - external DSA, 257–260
  - foreign direct investment (FDI) and, 260
  - foreign exchange reserves and, 262–264
  - interrelationships of debt holders and, 262
  - maturity mismatches and, 261
  - private sector debt, 260–261
  - risk assessment, 256–257
- identifying, 3
- Wages
  - real and marginal product of labor, 20–21
  - real wages, 20–21
- Working age population (WAP), 15
- World Bank
  - business environment and governance and, 25–26
  - Doing Business*, 25–26
  - Financial Sector Assessment Program (FSAP), 213, 217–218
  - forecasting economic activity, 43
- World Economic Outlook (WEO), 164, 185