Index

absorption approach 132, 169
accounting approach to balance of payments 63–7
barter economy 63–4
gift (recording of) 66–7
monetary economy 64–5
transactions in financial assets 66
Africa: central banks (BCEAO and BEAC) 212
arbitrage operations 215
area of circulation of a currency 33, 191–2, 196, 228–9, 232–3, 235
assets 107, 133
currency board 141
hierarchical system with external 100 per cent reserves 146, 147
hierarchical system with fractional reserves 148
nationalization of privileged bank and state control of monetary system 200
non-hierarchical system with fractional reserves 143, 144
paper currency and fractional reserves 186
transactions 66
see also financial assets
Austrian school 219, 221
balance of goods and services see trade balance
balance of payments 31, 61, 64, 65, 66, 67, 88–102
accounting approach 64
balance of 85, 87, 101, 130, 132, 134
deficit 65, 97–8, 99, 100, 128–9
disequilibrium 97–100
economic approach 75, 76, 79
equilibrium 61, 63
Europe and monetary integration 230
eviction effect 92–3
exchange rate and trade balance 101–2
external equilibrium policy 100–101
international equilibrium 157–60
market for loanable funds and public deficit in a closed economy 92–3
market for loanable funds and public deficit in an open economy 95–6
problem 173
public budget in closed economy 91–4
public budget in open economy 94–7
resource planning over time (in absence of a State) 88–91
see also accounting approach to balance of payments; economic approach to balance of payments; monetary approach to the balance of payments (MABP)
balance of payments (under fixed exchange rates) 128–36
balance of the balance of payments 130, 132, 134
capital balance 129, 130–31, 135
‘deterioration’ of the trade balance 129, 131, 135
Keynesian approach 128, 129–32, 135–6
monetary approach to the balance of payments (MABP) 132–6
monetary approach to the balance of payments 128–9
trade balance 128, 129, 130–31, 135
balance sheets 107
central banks 200–201
commercial banks 148, 200–201
gold certificates issuer 186

249
The international monetary system and the theory of monetary systems

- hierarchical system with external 100 per cent reserves 146
- hierarchical system with fractional reserves 148
- non-hierarchical system with 100 per cent reserves 141
- non-hierarchical system with fractional reserves 143, 144

- banking firm 48–51
- banking regulations 197
- banknotes 106, 107, 133
- monopolisation of issue 197–8
- nationalization of privileged bank and state control of monetary system 200
- paper currency and fractional reserves 187, 191
- see also gold certificates
- bankruptcy prevention 223–4
- banks and appearance of public privileges 197–9
- see also central banks; commercial banks
- barter economy 26, 31–2, 207
- accounting approach to balance of payments 63–4
- economic approach to balance of payments 69, 74, 75, 82
- very long-term evolution of monetary systems 177–8
- base money 241–2
- basic accounting rule 67
- ‘basket of currencies’ 56
- ‘basket of goods’ 114
- bitcoin 246
- bonds
  - balance of 78, 79
  - lack of 69, 75–6
- borrowed funds 144, 146, 148
- Bretton Woods agreements 206
- budget deficit 96–7
- business cycles 243

- capital
  - exports/imports 99
  - flows 82, 136
  - movements 169
  - see also capital balance; equity capital
- capital balance 66, 85, 97, 99, 129, 130–31, 135
- balance of 130
- deficit 214
- and money 35–6, 42–3
- cartels 193–6
- asymmetric/hierarchical 194–6, 197, 198, 241
- central banks 213–14
- centralized 240
- compulsory 241
decentralized 242
- Europe 234–5, 237, 239–42
- monetary 196, 198, 234, 237
- national 213–14
- public 235
- symmetric/non-hierarchical 194, 196
- voluntary 241
- cash balances 31
- excess 172
- idle 139
- money 28–31
- nominal 36–41, 47–8, 170–71, 181
- see also real cash balance effect
- central banks 103
- balance sheet (monetary base) 106–7, 110, 133–4
- convertibility into gold, disappearance of 206
devaluation 168, 170–73
- external constraint 139
- fixed exchange rates 146, 147, 148
- fixed exchange rates without international currency 208–9
- fixity of exchange rate between two currencies 210
- independence 227
- n – 1 exchange rates 211, 212, 213
- nationalization and state control 200–205, 241
- peripheral 213
- see also in particular European Central Bank (ECB); Federal Reserve (Fed)
- under United States centralized system 241
- CFA franc zone (Africa) 212
cheap money policy 221
Index

China 216
claims 186, 200
dematerialized 103
domestic 133, 143, 144, 146, 148
financial 35, 66, 107
materialized 106
clearing house 194–5, 200–201, 202
clipped coins 181
closed economy 92–3, 151–7
  positive real growth rate and zero
  monetary growth rate 155–6
  real growth rate 151
  real growth rate and positive
  monetary growth 156–7
  zero real growth rate and positive
  monetary growth rate 153–5
coevolution 13, 24
coins, clipped 181
commercial banks
  balance of payments 133, 135
  balance sheets 107, 148
devaluation 170
fixed exchange rates 146, 147
fixed exchange rates without
  international currency 208–9
money creation in hierarchical
  systems 108
n − 1 exchange rates 214
nationalization of privileged bank
  and state control of monetary
  system 200–204
commodities
  and factors of production 3–4
  and money, substitution between
  36–43
communicating vessels 162
comparative advantage theory 7, 15
comparative costs theory 76
competition 78, 129
  Europe 231–2, 234–5, 237–9
  free 234–5
  real 231–2
  theory 231
constraints, external 139
constructivist approach (Europe) 232,
  236–7
consumer theory/consumption 9, 22
contagion 117, 136, 140, 166, 169
convertibility guarantees 58, 245–6
  at fixed rate 161
at fixed rate of gold certificates
  182–3, 185
banks and public privileges 198
convertibility into gold,
  disappearance of 206
devaluation 168, 172
double 193
Europe and monetary integration
  240, 243
fixed rate exchange rates without
  international currency 208
monetary policy 217
money creation, limits on 225
mutual 191–6
n − 1 exchange rates 211–12
nationalization of privileged bank
  and state control of monetary
  system 200, 202, 205
paper currency and fractional
  reserves 190
systemic risk and economic
  instability 224
convertibility into gold, disappearance
  of 205–7
cooperation 194, 212–13
coordination 194
crawling pegs 214–15
currency 64
  appreciation 168
  ‘basket of’ 56
  boards 141–2, 217–18
  fiduciary 45, 47–8
  as ‘good money’ 33
  loss of 97
  mobility/immobility 5
  real 45–7, 180–82
  reference 194–5
  stable 220–21
  units 47
decentralized systems 223
  asymmetrical 213
deficits 64, 89
  budget 96–7
deflation 37, 41, 42, 112–13,
  118–19
closed economy 153, 155
convertibility guarantees, mutual
  191–2
international equilibrium 157–8
Index

rationality 19
resource constraints 18, 23
satisfaction 17–19, 21–2, 24
stable equilibrium 16
supply and demand for money 20–23, 43–4

equity capital 72–3
hierarchical system with external 100
per cent reserves 146
hierarchical system with fractional reserves 148
monetary and financial crises 221
non-hierarchical system with fractional reserves 144
paper currency and fractional reserves 189
ratio 197
systemic risk and economic instability 224–5

euro-dollars 86
euro/eurozone 236–43
cartels 237, 239–42
competition 237–9
constructivist currency 236–7
diversification and homogenization 237–8, 240

Europe and monetary integration 228–43
area of circulation of currency 228–9, 232–3, 235
base money 241–2
cartels 234–5, 237, 239–42
competition 231–2, 234–5, 237–9
constructivist approach 232, 236–7
diversification 237–8
economic unification 237
employment 229–30
euro/eurozone 236–43
fiscal policy 230
homogenization 237–8, 240
inflation 229, 230, 242
monetary policy 229, 230
optimal currency area/optimal monetary systems 228–36
optimal policy mix 230–31
political unification 237
purchasing power 228, 233–5, 242
tax policy 230, 231

see also European Central Bank

European Central Bank (ECB) 226, 233–4, 238–43
Executive Board 239
Governing Council 239
European Monetary Institute (EMI) 242
‘European monetary snake’ 216
European Monetary System (EMS) 207, 235–6
eviction effect 92–3, 96
exchange 22
controls 103–4, 223
free 13
indirect 26–7
office 143–4, 147, 149
over time 28–30
principle of 72, 90
see also exchange rates; exchange theory; exchanges, intranational
exchange rate variations: monetary approach 164–7
fixed exchange rates 165–6
flexible exchange rates 165
price indices 164, 166
real exchange rates, change in 167
real income 165–6
short-term exchange rates 167
supply and demand for money 164–5
tradable and non-tradable goods 166–7
exchange rates 9, 52–6, 57–9, 102
balance of payments 101–2
basket of currencies 56
controls 234
convertibility guarantees 58, 196
currency competition 58–9
determination of exchange rate 53
disequilibrium exchange rate 54–5
effective exchange rate 56
equilibrium exchange rate 53–5
Europe 235
fixed see fixed exchange rates
fixity of exchange rate 57
flexibility of equilibrium 57
flexible see flexible exchange rates
floating exchange rate 53, 58, 102, 207
international prices 121–3
invention of money 179
long-term equilibrium 53
multiple currencies, several monetary systems with fixed exchange rates 58
nominal exchange rates 123
observed exchange rate 53–5
overnight rate 53
parity 55–6
real cash balance effect 55
real exchange rate 123
rent control 54
single currency 57–8
see also exchange rate variations: monetary approach
exchange theory 3, 7–15
coercion 13
distribution of consumption 9
distribution of production 9
double-entry accounting 12
free act – forced act 13
free exchange 13
individual rationality 14
international 7, 15
market prices 11, 13
market value/objective value 12
production and consumption in isolation 8
rate of exchange 9
real price 11–12
relative advantage 10
relative price 9, 11–12
standard of value 11–12
subjective value 12–13
substitution, rate of 9
exchanges, intra-national 74–87
lending and borrowing 77–81
loanable funds and equity capital
81–5
money and bonds, lack of 75–6
money, reintroduction of 85–7
exogenous shock 16
expansionary monetary policy 134, 145, 203, 217–19, 221–3, 229
expenditure, cumulative 29
export prices 138
exports 64, 99
external reserves in currency 147–8

factors of production 3–4
fiat money systems 48–9, 246
fiduciary currency 45, 47–8
financial activities/monetary activities distinction 49
financial assets, balance of see capital balance
financial balance 87
financial bubbles 222
financial claims 35, 66, 107
fiscal policy 230
fixed but adjustable exchange rates (crawling pegs) 214–15
fixed exchange rates 53, 55, 59, 97–8, 124–7, 137–49, 150–63
asymmetric 211
convertibility into gold, disappearance of 206, 207
currency board 141–2
devaluation 168, 172–3
Europe and monetary integration 230
Hume model 138, 140
inflation 117
invention of money 183
Keynesian model 138–9, 140
monetary approach to the balance of payments (MABP) 138, 139–40
monetary policy 217
monetary shock 137–9
real shock 137, 139, 140
reserve coefficient/reserve ratio 143–4, 147, 149
see also balance of payments (under fixed exchange rates);
closed economy; international equilibrium; international transmission process according to monetary systems
fixed exchange rates without an international currency 208–216
fixity of exchange rate between two currencies 210–211
imperfect fixity 214–16
n − 1 exchange rates 211–14
flexible exchange rates 53, 58, 59, 124–7, 150
devaluation 168, 173
Europe 230, 234, 235
managed 216
\( n - 1 \) exchange rates 213
floating exchange rates 53, 58, 102, 207
Foucault’s pendulum 16
fractional reserves 143, 144, 148, 185–91
banks and public privileges 197
convertibility guarantees 192, 196
monetary policy 217
nationalization of privileged bank
and state control of monetary system 201, 204
France 197–8
Banque de France 197
colonies 218
Treasury 212
free act – forced act 13
free banking system 224, 235
free exchange 13
free-riding 234
Friedman, M. 220, 226
future of monetary systems 245–7
Germany: hyperinflation 207
gift (recording of) 66–7
globalization 76
gold certificates 182–5
banks and public privileges 197
convertibility guarantees, mutual 192–3
paper currency and fractional reserves 186–91
gold dollar standard 214
‘gold points’ 208
gold reserves 186
gold standard 191
convertibility into gold,
disappearance of 206
Europe 233, 236, 240
fixed rate exchange rates without
international currency 208
monetary and financial crises 220–21
money creation, limits on 225
nationalization of privileged bank
and state control of monetary system 205
pure 245–6
gold stock 200
‘gold window’ 207
goldsmiths 183
goods
‘basket of’ 114
inferior 34
mobility of 3
non-tradable 123, 140, 162, 170–72
public 114
and services, balance of (surplus in trade balance) 64
see also tradable goods
Great Depression 119
Greenspan, A. 222
Gresham’s law 204
growth rates 124
monetary gold stock 180
real 125, 151, 153–5
see also monetary growth
Hayek, F. 205, 219, 231, 236
hierarchical, national and monopolistic systems 103–4, 202
devaluation 168
imperfect fixity 214
\( n - 1 \) exchange rates 212
systemic risk and economic instability 223
hierarchical system
with external 100 per cent reserves
(system 3) 146–7
with fractional reserves (system 4) 148–9
see also money creation in hierarchical systems
homogenization 237–8, 240
Hong Kong 106, 197, 218
Hume, D. 138
Hume model 138, 140
hyperinflation 50, 207, 220
import prices 138
imports 64, 65, 66, 67, 76, 79, 99
income
constraint (budget constraint) 18
cumulative 29
and expenditure, accumulated 28
real 165–6
inflation/inflation rate 37–40, 42–3,
50, 112–19, 124, 151, 153, 156
absence of 61
‘basket of goods’ 114
closed economy, instruments of analysis in 154
convertibility guarantees, mutual 196
convertibility into gold, disappearance of 206, 207
cost 117
demand 117
Europe and monetary integration 229, 230, 242
fixity of exchange rate between two currencies 210
imported 117, 135
international equilibrium 159, 160, 162
invention of money 181, 184
monetary growth 116
monetary policy 217, 220
monetary prices 115
money creation, limits on 225, 226
nationalization of privileged bank and state control of monetary system 201, 203–4
optimal 113
positive 158
price of money 112–13
and prices 120–22
purchasing power of money 112–14, 118
real cash balance effect 116
relative prices 115
rule 242
steady 229
tax 50–51, 161, 214
two per cent rate 242
see also deflation; hyperinflation
inflationary gaps 125
information constraints 18–19, 23
interest rates 246–7
arbitration 136
economic approach to balance of payments 72–3, 79
equilibrium and disequilibrium 24
manipulation (perverse effect) 169, 219
monetary and financial crises 221–2
national 130
nominal 42–3, 151, 153–6, 158–9, 165
paper currency and fractional reserves 186
political determination of 221
real 42–3, 151–6, 159
world 79, 81
international economics theory 4, 129
international equilibrium 103–4, 157–63
money growth in a country 158–9
real growth and monetary growth 160–63
real growth in one country 157–8
international exchange theory 7, 15
International Monetary Fund (IMF) 51
international prices 120–23
exchange rates 121–3
inflation rate 120–22
purchasing power parity 122–3
international specialization theory 7, 14, 15, 76, 79
international trade 76
in loanable funds 80
theory (international specialization theory) 7, 14, 15, 76, 79
international transactions 64
international transmission process according to monetary systems 141–9
system 1: non-hierarchical system, with 100 per cent reserves 141–2
system 2: non-hierarchical system with fractional reserves 143–6
system 3: hierarchical system with external 100 per cent reserves 146–7
system 4: hierarchical system with fractional reserves 148–9
intertemporal behaviour of an individual 68–74
investment of one’s own resources 70
lending and borrowing 70–73
money, bonds and savings, lack of 69
money, reintroduction of 73–4
intra-national transaction 64
invention of money 178–82
see also money creation
investment
barter economy 178
of one’s own resources 70
and savings in equity capital 69
IS and LM curves 151

$k$ coefficient 37, 39–40, 116
Keynesian approach 82, 229
to balance of payments 128, 129–32, 135–6
fixed exchange rates 138–9, 140
IS and LM curves 151
to macroeconomics 169

legal tender laws 103–4, 202, 204, 223–4, 227
Europe and monetary integration 231, 234
lender of last resort 202, 223–4
lending 70–73, 77–81
see also loanable funds
liabilities 107, 133
currency board 141
hierarchical system with external 100
per cent reserves 146
hierarchical system with fractional
reserves 148
nationalization of privileged bank
and state control of monetary
system 200
non-hierarchical system with
fractional reserves 143, 144
paper currency and fractional
reserves 186
liquidity 162
trap 139
loanable funds 72–3, 91–5
closed economy 92–3
economic approach to balance of
payments 79–81
equilibrium and disequilibrium
24–5
and equity capital 81–5
monetary and financial crises 221, 222
open economy 95–6
paper currency and fractional
reserves 189

magic triangle (full employment,
absence of inflation and balance
of payments equilibrium) 61
marginal utility 93
of present and future goods
74
market
for loanable funds and public deficit
in closed economy 92–3
for loanable funds and public deficit
in an open economy 95–6
prices 11, 13
value/objective value 12, 63
metallic currency see real currency
Mises, L. von 112, 184, 219
mobility of goods 3
mobility/immobility of a currency
5
monetary adjustment 140
monetary approach to the balance of
payments (MABP) 132–6, 138, 139–40
monetary authorities 223
monetary balance see balance of
payments deficit
monetary base 106–7, 110, 133–4
monetary constitution 226
monetary crises see monetary policy
and monetary crises
monetary economy 46, 64–5
monetary flows 169
monetary growth 116, 125, 158–63, 189
positive 153–7
rate, zero 155–6
monetary policy 245
convertibility into gold,
disappearance of 207
Europe and monetary integration 229, 230
fixity of exchange rate between two
currencies 210–211
imperfect fixity 215
$n – 1$ exchange rates 212–13
nationalization of privileged bank
and state control of monetary
system 205
see also expansionary monetary
policy; monetary policy and
monetary crises
monetary policy and monetary crises 217–27
monetary and financial crises 220–23
money creation, limits on 225–7
systemic risk and economic instability 223–5
monetary prices 115
falling see deflation
monetary problems 175
monetary rule (intermediate monetary target) 226, 242
monetary shock 137–9
money 64, 65, 67
and commodities 36–42
money balance (balance of the balance of payments) 85, 87, 101, 130, 132, 134
money cash balance 28–31
money creation 41, 45–51, 154, 162
banking firm 48–51
fiat money 48–9, 246
fiduciary currency 45, 47–8
imperfect fixity 214
limits 225–7
monetary policy 218–19, 220
\(n - 1\) exchange rates 220
real currency 45–7
see also money creation in hierarchical systems
money creation in hierarchical systems 105–111
banknotes 106, 107
dematerialized claims 103
deposits 103–4, 106, 107
materialized claims 106
monetary base 106–7, 110
money supply 106–7, 110
pricing policy 111
quantity policy 111
reserve coefficient 108–111
reserves 107
money, demand for 26–44, 113
definition of money 33–4
incomes and expenditures, accumulated 28
money cash balances within a year, variations of 28
quantity theory of money 43–4
transaction account 31, 32
see also money demand function;
money, roles of
money demand function 34–43
money and commodities, substitution between 36–42
money, financial assets and commodities 42–3
money and financial assets, substitution between 35–6
money during changes in monetary systems 188
money, lack of 69, 75–6
money multiplier 197, 198
money, paradox of 39
money, quantity of see quantity of money
money, reintroduction of 73–4, 85–7
money, roles of 26–32
exchange, indirect 26–7
exchange over time 28–30
as a standard of value (numéraire) 11–12, 29, 30–32, 36, 177, 179
money supply 106–7, 110, 113
’s money trap’ 139
money, velocity of 44
monitoring procedures, mutual 194
monopolization 197–8, 199–202, 204, 234
see also hierarchical, national and monopolistic systems
Mundell, R. 128, 150, 152, 155, 229, 230
\(n - 1\) exchange rates 211–14, 229, 230
Napoleon Bonaparte 197
nation, concept of 3–6
international economics 4
international monetary system 5
mobility/immobility of a currency 5
perfect mobility for commodities and factors of production 3–4
total immobility of factors of production between nations 3
national systems see hierarchical, national and monopolistic systems
nationalism 236
nationalization of privileged bank and state control of monetary system 199–205
Index

central banks 200–205
clearing house 200, 202
commercial banks 200–204
convertibility guarantee 200, 202, 205
devaluations 203–4
fractional reserves 201, 204
inflation 201, 203–4
monopoly 199, 200–202, 204
savings 200, 203–4
New Zealand 239
no initial monetary equilibrium 172–3
nominal cash balances 36–41, 47–8, 170–71, 181
nominal price 32
nominal terms, variables expressed as 34
non-hierarchical system
with 100 per cent reserves 141–2
with fractional reserves 143–6
non-material (fiat) money systems 48–9, 246
non-tradable goods 123, 140, 162, 170–72
numéraire 11–12, 29, 30–32, 36, 177, 179
100 per cent reserves 141–2, 146–7, 182–5, 189–90, 217–18
open economy 95–6
optimal currency areas and optimal monetary systems 228–36
area of circulation of currency 228–9, 232–3, 235
balance of payments 230
cartels 234–5
competition 231–2, 234–5
employment 229–30
inflation 229
optimal policy mix 230–31
purchasing power 228, 233–5
paper currency
and 100 per cent reserves 182–5
and fractional reserves 185–91
see also banknotes
parity 55–6, 215–16, 235
perfect mobility for commodities and factors of production 3–4
perverse effect (interest rate manipulation) 169, 219
Phillips curve 220
pivot rate 216
political authorities 181
political market 93
political unification 237
price(s)
arbitration 135
of a commodity 22
during changes in monetary systems 188
general theory 113, 125
import 138
indices 37, 122–3, 164, 166
international 120–23
of money 112–13, 115
nominal 32
real 11–12
reference 215
stability policies 233
see also relative prices
pricing policy 111
producer theory 22
production and consumption in isolation 8
production, distribution of 9
productive incentives 218
profits 189
protection theory 4
public authority guarantee 180–82
public budget
closed economy 91–4
deficit 101
open economy 94–7
public deficit 84–5, 91–7, 101
closed economy 92–3
open economy 95–6
public goods 232
purchases (imports) 64, 65, 66, 67, 76, 79
purchasing power 31, 33, 34, 245–6
convertibility guarantees, mutual 191–2
Europe and monetary integration 228, 233–5, 242
generalized 228
invention of money 178–9
of money 112–14, 118
parity 122–3
systemic risk and economic instability 224
pure gold standard 245–6
pyramidal scheme 212

quality guarantee 180–81
quantity of money 124, 139, 162
growth of 206
monetary policy 217
nationalization of privileged bank and state control of monetary system 201
paper currency and fractional reserves 188
see also money supply
quantity policy 111
quantity theory of money (Hume) 43–4, 138

rationality 19
individual 14
re-evaluation 168, 209, 214
real cash balance effect 37–41, 46–8, 116, 153
devaluation 170–71
exchange rate 55, 166
monetary policy 218
real currency 45–7, 180–82
real estate bubbles 222
real exchange rate 123
real gross domestic product 46
real growth 156–7, 160–63
in one country 157–8
paper currency and fractional reserves 189
rate 125, 151, 153–5
target 242
real income 165–6
real price 11–12
real shock 137, 139, 140
real terms, variables expressed as 34
real variables 229
reference bank 194–5, 211–14
reference currency 194–5
reference price 215
reintroduction of money 73–4, 85–7
relative prices 9, 11–12, 27, 32, 36, 80, 115
changes in 140
devaluation 169–72

exchange rate variations: monetary approach 167
invention of money 179–80
rent control 54
reserve coefficient 108–111
banks and public privileges 198–9
convertibility guarantees, mutual 194–5, 196
fixed exchange rates 143–4, 147, 149
minimum 197
monetary policy 217
nationalization of privileged bank and state control of monetary system 201, 203–4
paper currency and fractional reserves 186–9
reserves 106, 107, 133, 141–2, 146
with central bank 148, 200
with commercial banks 147, 148, 200
in currency, external 147–8
hierarchical system with external 100 per cent reserves 146
hierarchical system with fractional reserves 148
non-hierarchical system with fractional reserves 143, 144
see also fractional reserves; 100 per cent reserves
resource constraints 18, 23
resource planning over time (in absence of a State) 88–91
Ricardo, D. 3, 15
risk costs 228
sales (exports) 64, 65, 66, 67, 76, 79
satisfaction 17–19, 21–2, 24
savings 200
abundant 221
barter economy 177–8
fictitious 203–4
lack of 69
in loanable funds 71
voluntary 203, 221, 246–7
seigniorage 50–51, 86–7, 214
shocks 16, 115, 137–40
Spain: monetary and financial crises 222
special drawing rights (SDRs) 51
specialization, general principle of 72
specialization theory, international 7, 14, 15, 76, 79
standard of value see numéraire
state intervention see state intervention
subjective value 12–13
substitution
between money and commodities 36–42
effect 117
rate 9
supply
aggregate 82
money 106–7, 110, 113
see also supply and demand
supply and demand 36
and equilibrium 20–23
for gold 180
for money 164–5
system 1: non-hierarchical system, with
100 per cent reserves 141–2
system 2: non-hierarchical system with
fractional reserves 143–6
system 3: hierarchical system with
external 100 per cent reserves 146–7
system 4: hierarchical system with
fractional reserves 148–9
systemic risk 223–5
tax policy 230, 231
time preference 72, 221
tradable goods 123
devaluation 169–70, 173
exchange rate variations: monetary
approach 166–7
fixed exchange rates 140
international equilibrium 162
trade
deficit 81, 86, 95–7
surplus 81
see also international trade; trade
balance; tradable goods
trade balance 65, 76, 78–9, 85, 87, 97, 99, 128–31, 135
accounting equilibrium 65
balance of 88, 91, 130
balance of payments 101–2
deficit 99, 214
‘deterioration’ 129, 131, 135
economic approach to balance of
payments 79
surplus 99
transaction account see balance of
payments
transaction costs 178, 228
two goods, two countries model 80
uncertainty 29–30
unemployment 242
unit of measurement see numéraire
United Kingdom 183, 195
colonies 218
United States 86–7, 96, 98–9, 100, 206
American Central Bank 206
Federal Reserve (Fed) 103, 206–7
Massachusetts banks 225
monetary and financial crises 222
n − 1 exchange rates 212
New York banks 225
Rhode Island banks 225
units of currency see reserves
variable parity (crawling pegs) 214–15
velocity of money 44
very long-term evolution of monetary
systems 177–207
banks and appearance of public
privileges 197–9
barter economy 177–8
convertibility into gold,
disappearance of 205–7
invention of money 178–82
mutual convertibility guarantees 191–6
nationalization of privileged bank
and state control of monetary
system 199–205
paper currency and 100 per cent
reserves 182–5
paper currency and fractional
reserves 185–91
virtuous circle 192
White, L. 224