HOW MONETARY POLICY GOT BEHIND THE CURVE—AND HOW TO GET BACK

EDITED BY
Michael D. Bordo, John H. Cochrane, and John B. Taylor
accelerationist thesis, 181
Ackley, Gardner, 120
adaptive expectations model, 73–74, 75f, 76, 77f, 78–80, 134
adjusted Taylor rule, 43, 44f
Aiyagari, S. Rao, 275
American Rescue Plan, 118, 133, 208–9, 256n1, xiii
anchoring, 110, 348, 350–51
Anderson, Terry, 54–55
Arab Oil Embargo (1973), 144, 154
Archegos Capital Management, 330
Argentina, 110, 369
asymmetric view of inflation risks, 170, 234–35, 237
Atlanta Wage Tracker, 25, 26t
Austria, 111, 111f
average inflation targeting, 70, 112, 159, 171
  flexible average inflation targeting, 325–28, 341, 354–55
  rules-based monetary policy, 40–44, 48
balance sheet and interest rate monetary policy, 330–32
balance sheet tightening, 55–58
balanced approach rule, 12f, 43, 44f
balanced approach shortfalls rule, 12f, 43, 44f, 371–72
Bank of England, 205, 269, 308
Barro, Robert J., 274–75
Barro tax smoothing model, 274–75, 310
“behind the curve” interpretations, 313–24
  core PCE inflation, 314f, 315, 316f, 319, 323f
Dallas Fed trimmed mean inflation rate, 315, 316f, 317, 318
  defining, 321f
  forward guidance, 313, 319, 322, 324
market pricing based on Fed credibility, 320f
minimalist policy rule, 317–19
non-inertial Taylor-type rule calculation, 317–18
overview, 313–15
risks to inflation expectations, 322
Taylor-type policy rule, 317–19, 322
Bernanke, Ben S., 36, 170–71, 170n11, 185
Beveridge curve, 22, 23, 23f, 31, 118–19, 119f, 131–32, xiii
Beyer, Andreas, 36
Biden, Joe, 133
Blue Chip Economic Indicators, 338, 339t
Boehl, Gregor, 36
bonds and bondholding, xx–xxi
  bond yields, 166
  disinflation, 65, 100, 105
  negative real interest rates, 88
  rate on government bonds, xvii
  r-star from returns on government bonds, 220f
  “unpleasant arithmetic,” 92–93
  wartime, xviii, xx–xxi
Bordo, Michael, 131, 143, 145, 194–96, 200, 288, xiv
break-even inflation, 366
Bretton Woods system, 144, 153, 205–6
Brunner, Karl, 143, 143n1
Bryant, John, 273
Bullard, James, 134, 367, xxi–xxii
  inflation spike in 2021–2022, 246
  monetary policy exits, 198–99
Burgess Riefler Strong Doctrine, 143n1
Burns, Arthur, 154, 155, 174, 183–84, 362, xv
Burns, Jennifer, 180–87, 200, xv
business cycles, historical perspective on, 143n1. See also monetary policy exits
NBER cycles, 1920 to 1960, 146
NBER cycles, 1961 to present, 150t–51t overview, 141
Cachanosky, Nicolás, 110
Canada, 108, 109f, 136
capital of inattention, 215, 224, 248
CARES Act of 2020, 133, 160, 256n1, 298–99, 301
CBO (Congressional Budget Office), 45
COVID-period government revenue and expenditures, 256
output gap projections, 18
projection for debt-to-GDP ratio and deficits, 98–99, 99f
stimulus, 117
Cecchetti, Stephen, 37
central banks, xx–xxi. See also rules-based monetary policy; the Fed
actions to deal with effects of COVID-19 on global economy, 38–42
capital of inattention, 215, 224, 248
ECB, 40–41, 207, 210, 212, 218, 234, 236–37, 241, 250, xvii
evolution of, 194
inflation bias, 235
inflation persistence, 229
misreading of inflationary shocks, xvi–xvii
output gaps, 229
path of inflation and central bank assessments, 227–29
temporary cost push shocks, 229
Chari, V. V., 276–77
Chase, Salmon P., 278n6
Child Tax Credit, 118
Civil War, 272, 285–87, 289, xix
debt repayment and currency policies, 269–70
deficits, 275f, 277–78, 278f
expenditure surge, 285
financing via taxes vs. bonds, 287, 287t
5-20s, 280–83
natural log of price level, 286f
real value of Treasuries, 286, 287f
revenue decomposition, 278, 279t
closed-economy model, 367
Cochrane, John, 35, 66, 130, 133–38, 268, 286, 347–49, xii–xiii
COLAs (cost of living adjustments), 168
Congressional Budget Office. See CBO
Connolly, John, 174
Consolidated Appropriations Act of 2021, 256n1
Consumer Price Index. See CPI
Coolidge, Calvin, 253
core PCE inflation, 314f, 315, 316f, 319, 323f.
See also PCE
cost of living adjustments (COLAs), 168
cost-push inflation, 182–83
cost-push shocks, 229–33, 232f
countercyclical monetary policy, 141, 143, 148n3, 170
COVID-19 pandemic, 98
bondholding, 267–69, 268f
central banks’ response to, 38–42
comparison to historical wars, 253–54, 255f, 256–57, 258t, 259f, 261, 264, 265t, 266–69, 267f, 268f, 280, 285–88, 287t
CPI, 266–67, 267f
demand shortfall, 67
effect on GDP, 9, 159–60
Fed holdings, 261
financing via taxes vs. bonds, 287, 287t
fiscal and supply shocks, 68
government revenue and expenditures, 254, 255f, 256
impact on international economy, x
inflation spike in 2021–2022, 207–9
monetary policy exits and, 145, 159–60
natural log of price level, 286f
real value of Treasuries, 286, 287f
revenue decomposition, 261–64, 265t, 266
as shock to economy, 207–9
stimulus measures, 116–17, 119–20
supply and demand, 117–19
unemployment insurance, 254, 255f
US Treasury debt, 257, 257f, 258t
COVID-19 Relief Bill, 18
CPI (Consumer Price Index), 161n7, 168, 227–28
cyclical changes in monetary policy, 146t
distribution of inflation across CPI expenditure categories, 162f
earnings vs., 168
Great Inflation, 154–55, 161
historical probability of recession and, 27t, 29t
hourly earnings and, 168
inflation targeting, 108, 109f
March 2022, 69
1960s–2022, 162
1965–2000, 70f
1970s, 154
1970s–2021, 163f
portion of CPI components experiencing inflation exceeding 3% and 5%, 163f
probability of recession, 27t, 28t
2016–2022, 64f
2019–2022, 73f
2021–2022, 161–62
United Kingdom, 1217 to 2016, 205f
wage and price inflation, 25, 26t
World Wars vs. COVID-19, 266–67, 267f
zero-bound era, 81f
credibility of central banks and monetary policy, 169, 215–18, 224–25, 249
inflation spike in 2021–2022, 236
market pricing based on Fed credibility, 320f
measurements of credibility of the Fed from options markets, 217f
US dollar crisis and, 144, 155
Credit Crunch, 153, 153n5
“cross controlling” monetary policy, 331–32
Dallas Fed trimmed mean inflation rate, 315, 316f, 317, 318
data dependence, 193
debt
bank reserves and reverse repos, 261, 262f
debt service costs, 166, 174
debt-to-GDP ratio, 65, 98, 99f, 102f, 105, 113
disinflation, 98–102
expansion of government debt, 66, 67f
financing of wars and pandemic relief with, xviii, xix–xx
5-20s, 281–83
future fiscal shocks, 106–7
Gallatin’s model, 275–76
housing crisis and Great Recession, 144, 157
increase (2007–2022), 67f
inflation targeting, 108
interest costs on, 88, 92–94, 99–102
pandemic crisis, 130, 136–37
QE compared to, 56
response to fiscal shock, 84f, 86–89
return on private capital vs. return on the public debt, 222–23, 239
revaluation of nominal, 93–94
Revolutionary War through Civil War, 271–83, 271f, 279f, 288–89
r-star from returns on government bonds, 220f
service costs, 166, 174
terming out debt, 56
theories of sovereign and domestic government debts, 270
total debt (1930–2020), 304–5, 305f, 306f
“unpleasant arithmetic,” 89–90, 92–94
US Treasury debt, 257, 257f, 258t
war and government debt, xviii–xxi
World Wars vs. COVID-19, 256–58, 258t, 265t, 266
deficits
CBO projection for debt-to-GDP ratio and deficits, 98–99, 99f
Civil War, 275f, 277–78, 278f
cylical stimulus and, 132–33, 167uture fiscal shocks, 106–7
primary deficits, 65, 98, 100–101, 256, 292, 293f
response to monetary policy shock with no change in surplus or deficit, 90–91, 91f
response to 1% deficit shock, 84, 84f, 87
response to 1% deficit shock with monetary policy rule, 96–97, 96f
deflation, 80, 149, 157, 170, 170n11, 219, 266, xviii–xix
disinflation, 97–113
austerity measures and, 103
fiscal constraints, 65
GDP, 98–102
Volcker disinflation shock, 144, 155–57, 170
Dodd-Frank legislation, 174
dot.com bubble, 156–57
Draghi, Mario, 37, 59, 236
dynamic stochastic general equilibrium models, 190
Eberly, Janice C., 36
ECB (European Central Bank), 40–41, 207, 210, 212, 218, 234, 236–37, 241, 250, xvii. See also central banks
ELB (effective lower bound), 37, 142, 171
inflation spike in 2021–2022, 237–41
r-star and, 219–20, 222
Employment Act of 1946, 143
ergy resources and prices, 237, xvi
in Euro area, 238f
inflation spike in 2021–2022, 210–11
1970s, 362, 365
war in Ukraine and, 2–4, 210, 360
epistemic approach to inflation, 17, 31–32
equilibrium real interest rate, 45, 48, 190, 348–50
estimates of r-star from returns on government bonds and private capital, 220f
reasons for decline in, 358–59
Euro area
- ECB deposit facility rate and main refinancing operations rate, 81f
- GDP (2020–2021), 207
- harmonized index of consumer prices, 116–17, 116f, 228
- inflation expectations, 234, 236
- inflation forecasts and energy prices, 238f
- recovery from recessions, 208, 209f

European Central Bank (ECB), 40–41, 207, 210, 212, 218, 234, 236–37, 241, 250, xvii. See also central banks
- Evans, Charles, 199, 204, 353
- exits from monetary policies. See monetary policy exits

expectations
- adaptive expectations model, 73–74, 75f, 76, 77f, 78–80, 134
- distribution of household inflation expectations, 213–14, 213f
- rational expectations model, 73–74, 75f, 76, 77f, 78–79, 82–83, 88–89
- role in inflation spike of 2021–2022, 211–15, 224, 233–34
- three-stage movement in the distribution of, 212–14

FCI (financial conditions index), Goldman Sachs, 125, 128
- the Fed. See also central banks; monetary policy exits
- changes to reporting on monetary policy rules, 33–34
- contingency planning, 70–71
- cutting federal funds rate, 10
- epistemic approach to inflation, 17, 31–32
- financial communications, 58–60.
- See also forward guidance
- financial conditions index (FCI), Goldman Sachs, 125, 128
- ‘first difference’ rule, 43, 44f
- fiscal policy
  - addressing inflation without, 90–91
  - constraining monetary disinflation, 99
  - fiscal-monetary policy coordination, 83, 136
- HICP, 115–16, 116f
- passive, 83, 90, 95, 103, 104f, 105–6
- stimulus, 116–17, 119–20
- fiscal shocks, 65, 68, 83–97, 110, 113, 224
- cost-push shocks, 229–33, 232f
- COVID-19 pandemic, 207–9
- energy prices, 210–11, 362, 365
- future, 106–7
- misreading of, 229–30
- response to, 83–89, 84f
- Volcker disinflation shock, 144, 155–57, 170

Fiscal Theory of the Price Level, The (Cochrane), 90, 131
- Fischer, Stan, 193
- flexible prices, 36, 64, 87, 92, 94
- floating exchange rates, 205–6
- FOMC (Federal Open Market Committee), x
  - “framework” document, 325–26
  - groupthink and, 195–97
  - monetary policy evolution during 2021, 334–38
  - 1974, 313, 315

unforced errors, 175–76
“whatever it takes” moment, 15
federal funds rate
- FOMC projections of, 47t
- with inflation rates, 46f
- PCE inflation compared to, 357
- Taylor rule and, 49f
- 2017–2022, 39f
- ZLB, 10, 11, 247, 334

Federal Open Market Committee. See FOMC
- Federal Reserve Bank of Cleveland, 195
- Federal Reserve Bank of Minneapolis, 196
- Federal Reserve Bank of St. Louis, 195–96
- Federal Reserve Board/United States (FRB/US) model, 19, 20f, 36, 197
- Federal Reserve Review conference, 2019, 35, 37
- financial communications, 58–60. See also forward guidance
- financial conditions index (FCI), Goldman Sachs, 125, 128
- ‘first difference’ rule, 43, 44f
- fiscal policy
  - addressing inflation without, 90–91
  - constraining monetary disinflation, 99
  - fiscal-monetary policy coordination, 83, 136
- HICP, 115–16, 116f
- passive, 83, 90, 95, 103, 104f, 105–6
- stimulus, 116–17, 119–20
- fiscal shocks, 65, 68, 83–97, 110, 113, 224
- cost-push shocks, 229–33, 232f
- COVID-19 pandemic, 207–9
- energy prices, 210–11, 362, 365
- future, 106–7
- misreading of, 229–30
- response to, 83–89, 84f
- Volcker disinflation shock, 144, 155–57, 170

Fiscal Theory of the Price Level, The (Cochrane), 90, 131
- Fischer, Stan, 193
- flexible prices, 36, 64, 87, 92, 94
- floating exchange rates, 205–6
- FOMC (Federal Open Market Committee), x
  - “framework” document, 325–26
  - groupthink and, 195–97
  - monetary policy evolution during 2021, 334–38
  - 1974, 313, 315
1983, 315
PCE inflation projections, 19
“preference falsification,” 192
projections of federal funds rate, 47t
quantitative easing, 11, 13
forecasting
challenges of, 338–40
forecasting procedures, 68–69
inflation forecasts, 348, 349–50
Michigan Surveys of Consumers, 365
misreads and unreliable forecasts, 172–73
“behind the curve” interpretations, 313, 319, 322, 324
monetary policy exits and, 172–73
threshold-based, 199, 353–54
fourth Chicago School, 184
France, 269
FRB/US (Federal Reserve Board/United States) model, 19, 20f, 36, 197
Friedman, Milton, 95, 136, 143, 143n1, 146–47, 183–86
Full Employment and Balanced Growth Act of 1978, 155
functional finance, 185–86
Furman, Jason, 117
Gali, Jordi, 11, 230
Gallatin, Albert, 274–76
Gallatin-Barro tax smoothing model, 285
GDP
debt-to-GDP ratio, 65, 98, 99f, 102f, 105, 113
disinflation, 98–102
effect of COVID-19 pandemic on, 9, 159–60
failed stabilization, 105–6
future fiscal shocks, 106–7
government revenue and expenditures during World Wars and COVID, 254, 255f, 256
household net worth in US as fraction of, 363f
1970s, 154, 166
post–Great Financial Crisis, 158
Germany, 3
Gertler, Mark, 11, 230
GFC (Great Financial Crisis), 18, 38, 58, 98, 144, 151t, 157–60, 170–72, 256, 387
global economy, role in setting monetary policy, 347
Global Financial Crisis of 2008, 1, 13, 137, x
See also GFC
gold standard, 141–44, 149, 153, 194, 205–6, 269, 273, 308, xv
Goldman Sachs global financial conditions index, 125, 128
Goldman Sachs Global Financing Group, 131
tablale, Tyler, 131, 132, 346, xiii
Grant, Ulysses S., 273–74, 289
Great Contraction, 147t, 148
Great Depression, 9, 175, 256, 295
Great Financial Crisis (GFC), 18, 38, 58, 98, 144, 151t, 157–60, 170–72, 256, 387
Great Moderation, 144, 155–57, 170, 176, 190, 199
Great Recession, 18, 38, 58, 98, 144, 151t, 157–60, 170–72, 256, 387
Great Society program, 153
Greenspan, Alan, 58, 156, 170n11, 185
Grumpy Economist, The
Guha, Krishna, 55, 131–32, 368–72
Gunn, John, 347
Hall, George J., 253, 286, 288, xviii–xxi
Hall, Robert, 54, 244–45
Hamilton, Alexander, 272–73, 275–76, 288–89
Hamilton: The Musical
Hammack, Beth, 131, 137–38, xiii–xiv
Hansen, Lars Peter, 254
hard landing, 26–31, xiv
Harmonized Index of Consumer Prices (HICP), 115–16, 116f, 228
Hassett, Kevin A., 66
helicopter drop, 63, 66–67, 79, 112. See also stimulus measures
Heller, Robert, 41
Hoover Institution at Stanford University conference, 2019, 35
household portfolios, 364f
housing market, 138, 346, 367–68, 370–71
Humphrey-Hawkins legislation, 155
Hussman, John, 49
hyperinflation, 65, 111, 111f
inertial policy rules, 12f, 342–43
inertial Taylor rule, 12f, 342–43, 360–61
inflation
actual, 323f
amelioration of, 65, 97–112
anomalies, 329n4
breakeven rates (2019–2022), 73f
core PCE inflation, 316f
disappearing on its own, 71
inflation (continued)
expansion of government debt, 66
expected, 323f
failed stabilization, 103–6
Fed tactics, 31–32
Fed’s projections, 63–64, 72f, 79–83
fiscal policy’s responsibility for, 115–20
forecasting procedures, 68–69
hard landing, 26–31
inflation now vs. inflation later, 93
institutional risk, 352–53
labor market view on, 21–26
market perspective, 121–38
model justifying Fed’s slow response, 71–78, 72f, 75f, 77f
monetary policy to fight, 89–97
monetary policy’s responsibility for, 67–68
1970–2022, 40f
origin of current, 63, 66–69, 67f
output-gap view on, 17–20
persistence of current, 64, 83–89
slow reaction of Fed, 63–64, 69–78
smoothing, 65
sources of error contributing to, 189–92
supply shocks, 66
United Kingdom, 1217 to 2016, 205f
“unpleasant arithmetic,” 65, 89–97, 91f
used car prices, 328–29
wartime, xviii–xx
“Inflation Blues” (King), 357, xxiii
inflation spike in 2021–2022
asymmetric risks, 234–35, 237
cost-push shocks, 229–33
credibility of monetary policy and, 215–18, 224–25, 236
economic shocks, 207–11, 224
ELB, 237–41
equilibrium real interest rate, 218–23, 225, 237–41
general discussion, 243–50
inflation bias in central banks, 235
long-term inflation forecasts and energy
prices in Euro area, 238f
market-based measures, 236–37
output gaps, 229–33
overview, 203–4
path of inflation and central bank
assessments, 227–29
role of expectations in, 211–15, 224, 233–34
inflation targeting, 65, 70, 108–12, 109f.
See also average inflation targeting
Infrastructure Investment and Jobs Act of 2021, 167, 256n1
institutional risk, 352–53
interest on excess reserves (IOER), 158
interest rates. See also federal funds rate;
r-star
balance sheet and interest rate policy,
330–32
interest rate rules, 36
1965–2000, 70f
optimal interest rate setting with zero
lower bound and uncertainty about QE
effectiveness, 240f
percent change from year ago, 64f
term premiums, 56–58
zero-bound era, 81f
IOER (interest on excess reserves), 158
IS curves
model justifying Fed’s slow response, 73–74
response to fiscal shock, 83, 85
isolating economies, 4–5
Israel Putnam principle, 328–30
Issing, Otmar, 41
Jackson Hole Economic Policy Symposia
2014, 236
2020, 40–41, 171n12, 218
2021, 212
Jefferson, Thomas, 288
Job Openings and Labor Turnover Survey
(JOLTS), 22
Johnson, Andrew, 173, 282, 289
Johnson, Lyndon B., 153, 173
k percent money growth proposal, 95
Katz, Marc, 248–49
Kehoe, Patrick, 247–48
Kiley, Michael T., 36
King, B. B., 357, xxiii
King, Mervyn, 193
Kounalakis, Markos, 138
Krishnamurthy, Arvind, 243–44, 247, 370
Kuroda, Haruhiko, 41
labor market indicators
change in nonfarm payroll
employment, 340t
role in monetary policy, 334–40
labor market view of inflation, 21–26
Beveridge-type curves, 22, 23f
JOLTS data, 22
NAIRU, 17, 22–23, 31
residual from firm-side unemployment
regressions, 24f
v/u ratio, 21–22, 21f, 28, 30, 30t
wage inflation, 23–25, 25f, 26t
Index

Lagarde, Christine, 40–41
Landon-Lane, John, 143, 145
learning models, 134–35
Leombroni, Matteo, 362
Lerner, Abba, 185–86
Levin, Andrew, 352
Levy, Mickey D., 41, 132–33, 194, 197, 198–200, 344, xiv
Lilley, Andrew, 38
Lincoln, Abraham, 278n6
look through the shock policy, 11, 210–11, 229, 231, 233, xvii
Lucas, Robert, Jr., 276–77, 286
Lucas-Stokey defaults, xx
M1 measures, 38, 148
M2 measures, 38, 67f, 148, 150t–51t, 153, 159–60
Macroeconomic Modelling and Model Comparison Network conference, 2019, 35
macroeconomic models, 35
FRB/US economic model, 19, 20f, 36, 197
Macroeconomic Model Data Base, 230n3
Madison, James, 271–73, 288–89
Maginot line of financial stability, 70, 349
market pricing, based on Fed credibility, 320f
market-based measures, 165–66, 236–37
Martin, William McChesney, 149, 153, 173, 200
maximum inclusive employment, 145, 159, 168, 171, 171n12
Mazza, Federico Julián Ferrelli, 110
MBS (mortgage-backed securities), 33, 38, 45, 157–58, 260, 336, 346
McGrattan, Ellen, xxi
Meade, Ellen, 58
Meltzer, Allan, 120, 143, 143n1
Merk, Axel, 371
Mertens, Thomas M., 35
Michigan Surveys of Consumers, 365
microeconomic reforms, 100, 102, 108, 110, 112–13
Miller, William G., 362
minimalist policy rule, 317–19
Modigliani-Miller theorem, 221
monetarism, 183–85, 205–6
monetary policy
balance sheet and interest rate policy, 330–32
“cross controlling,” 331–32
dual-mandate objectives, 333–34
fighting inflation, 89–98
fiscal-monetary policy coordination, 83, 136
flexible average inflation targeting, 325–28
forgotten lessons, 112
general discussion, 341–55
with inflation rates, 46f
Israel Putnam principle, 328–30
responsibility for inflation, 67–68
“slipping,” 331
monetary policy exits
comparison of actual fed funds rate with Taylor rule estimates, 152f
COVID-19 pandemic and, 145, 159–60
current situation vs. Great Inflation, 160–68
cyclical turning points in monetary policy, 1920 to 1960, 147t
discussant remarks, 180–87
evolving economic theories and, 169–71
factors contributing to delayed exits, 168–74
fear of deflation and, 157
general discussion, 188–200
Great Financial Crisis, 144, 157
Great Inflation, 144, 153, 155
Great Moderation, 144, 156–57
learning from mistakes, 175–76
NBER cycles, 1920 to 1960, 146t
NBER cycles, 1961 to present, 149, 150t–51t, 152
post- GFC, 157–59
post-WW1, 143
post-WWII, 143–44, 148–49
pre– World War II, 146–48
reliance on forward guidance and, 172–73
Volcker disinflation shock, 144, 155–57
money velocity, 167n9
mortgage-backed securities (MBS), 33, 38, 45, 157–58, 260, 336, 346
NAIRU (nonaccelerating inflation rate of unemployment), 17, 22–23, 31, 326
NATO, 2
NBER (National Bureau of Economic Research) business cycles, 146t, 149, 150t–51t, 152
Nelson, William, 353–54
neutral rate of interest, 218–19. See also equilibrium real interest rate
New Keynesian models, 64, 112, 230–31, 232f, 245
failed stabilization, 103–6
monetary policy to fight inflation, 89–97
rational expectations model, 74, 75f, 76, 77f, 79, 82–83
response to fiscal shock, 83–89
New Zealand, 108, 109f, 110, 136
Nikolsko-Rzhevskyy, Alex, 36
failed stabilization, 103–6
monetary policy to fight inflation, 89–97
rational expectations model, 74, 75f, 76, 77f, 79, 82–83
response to fiscal shock, 83–89
New Zealand, 108, 109f, 110, 136
Nikolsko-Rzhevskyy, Alex, 36
9/11 shock, 1, 157, 189, x
Nixon, Richard, 174
nominal GDP. See GDP
nonaccelerating inflation rate of unemployment (NAIRU), 17, 22–23, 31, 326
Papell, David, 11, 36, 322n7, 342–43, 371–72
Paycheck Protection Program (PPP), 299
PCE (personal consumption expenditures) inflation, 13, 19, 78, 127, 326–27
compared to federal funds rate, 357
core PCE inflation, 314f, 315, 316f, 319, 323f
distribution of inflation across PCE expenditure categories, 163f
monthly change in, 337–38, 337f
portion of PCE components experiencing inflation exceeding 3% and 5%, 164f
Summary of Economic Projections, 165f
2021–22, 161–62
Phillips curve, 169, 169n10, xv–xvii
centered on expected future inflation, 63
changing formulation and expressions, 180–84
deviations from steady state inflation, 208
inflation targeting, 108, 112
model justifying Fed’s slow response, 73–74
New Keynesian model, 230–31, 245
past inflation vs. expected future inflation, 79
response to fiscal shock, 84–85, 88
steep, 64
supply shocks, 66
Piazzesi, Monika, 367–69, xxiii–xxiv
Plosser, Charles I., 41, 130–31, 136
Poland, 3
Politis, monetary policy exits and, 173–74
potential GDP. See GDP
Powell, Jerome, 34, 37, 40, 133, 171n12, 185, 212, 218, 366
PPP (Paycheck Protection Program), 299
“preference falsification,” 192
Prescott, Ned, 195
primary deficits, 65, 98, 100–101, 113, 256, 292, 293f
primary surpluses, 86, 92, 100–101, 101f
Prodan, Ruxandra, 36, 322n7
Putin, Vladimir, 2–3, 5
Putnam, Israel, 328n3, 330
quantitative easing (QE), 11, 13, 56–57, 144, 157–58, 239–41
quantitative tightening (QT), 55–58
Quarles, Randal, 344–46, 350–51, xxii–xxiii
Rajan, Raghuram, 37
“ratchet effect,” xviii
rational expectations model, 73–74, 75f, 76, 77f, 78–79, 82–83, 88–89
rational inattention, 58
Rauh, Joshua, 341–42
Reagan, Ronald, 100–101
real bills doctrine, 141–42, 143, 143n1, 148
real estate, 138. See also housing market
real GDP. See GDP
recessions
Great Recession, 18, 38, 58, 98, 144, 151t, 157–60, 170–72, 256, 387
historical probability of, 27t, 29t
1937–38, 148
predictors of, 27–28
Sahm rule, 30
US and Euro area recovery from, 209f
regression analysis, 145n2
Reifschneider-Williams rule, 37f
Reis, Ricardo, 58, 195, 244–50, xv
representative agent models, 276–77
research, rules-based monetary policy, 34–38
retirement, early, 117
reverse repurchase agreements (reverse repos), 261
Revolutionary War, 272, 275f, 278f, 289, xix
Ricardo, David, 195
Rice, Condoleezza, 189, x–xi
Roberts, John M., 36
Robinhood Markets, Inc., 127
Rogers, Ciaran, 362
Rogoff, Kenneth, 38, 278n6
r-star, 45, 48, 190, 348–50
estimates of r-star from returns on government bonds and private capital, 220f
reasons for decline in, 358–59
Rubin, Bob, 59
rules-based monetary policy
average inflation targeting, 40–44
discrepancy between policy and implementation, 44–49
general discussion, 53–60
overview, 33–34
research, 34–38
retreat from, 38–40
Russia
as energy source, 4–5
invasion of Ukraine, 115, 121, 125, 137
isolating economy of, 4–5
Sack, Brian, 38
Sahm rule, 30
Samuelson, Paul, 180–81
Sargent, Thomas J., 65, 92–93, 111–12, 253, 286, 288, xviii–xxi
savings, personal, 18, 132–33, 167, 208, 358
Scalia, Antonin, 191
Scheinkman, Jos A., 254
Schneider, Martin, 362
Schoenholtz, Kermit, 37
Schwartz, Anna J., 146–47
“see through the shock” policy. See look through the shock policy
seigniorage, 93–94, 99
SEPs (Summary of Economic Projections), 165f, 197, 338, 339t, 357–58, 359t
shocks to economy. See fiscal shocks
Sims, Christopher A., 92, 276–77
Sims, Eric R., 35–36
skewness, 214, 233–34, 248
“slipping” monetary policy, 331
Söderström, Ulf, 233n4
soft landings, 28
Solow, Robert, 180–81
Stephenson, Tom, 53–54, xi
sticky prices, 208
persistence of inflation, 64, 83, 85, 87–88, 112
response to fiscal shock, 84f
slow reaction from Fed, 78
supply shocks, 67
Taylor-type rule, 95–96
“unpleasant arithmetic,” 93
stimulus measures, 116–17, 119–20
American Rescue Plan, 118, 133, 208–9, 256n1, xiii
CARES Act of 2020, 133, 160, 256n1, 298–99, 301
2009 stimulus package, 18
Stock, James H., 36
Stokey, Nancy L., 276–77, 286
Strong, Benjamin, 143
Sturzenegger, Federico, 110
Summary of Economic Projections (SEPs), 165f, 197, 338, 339t, 357–58, 359t
Summers, Lawrence, 55–57, 59–60, 66, 68, 89, 107, 130, 135, xi–xii
Sweden, 108
tapering asset purchases, 334, 336–40, 352, 354
“tax smoothing” models, 274–77, 310
Taylor, John, 35, 55, 131, 317, xi–xii
Taylor rules, 12f, 14, 47, 317–19, 322
‘adjusted Taylor’ rule, 43, 44f
April 2021, 48f
average inflation rate and, 42
comparison of actual fed funds rate with, 152f
defined, 35
equation, 37f
federal funds rate and, 49f
inertial Taylor rule, 12f, 342–43, 360–61
interest rates, 78
New Keynesian model, 231–33
1970s compared to today, 360, 367–68
reducing volatility with, 95–97
responding to expected future inflation, 72
stability, 80, 113
variations of, 152f, 152n4
temporary price-level targeting rules (TPLT), 37
term premiums, 56–58. See also interest rates
terming out debt, 56
Thornton, Henry, 195
threshold-based forward guidance, 199, 353–54
Timiraos, Nick, 351
TIPS (Treasury Inflation-Protected Securities), 322, 366, 371
Tobin, James, 181–82
TPLT (temporary price-level targeting rules), 37
Treasury securities, 33, 38, 45, 133–34, 260
historic yield increase, 123, 124f
market yield (2019–2022), 73f
Treasury–Federal Reserve Accord, 149
Truman, Harry, 268n3
2-year Treasury yield, 319, 320f, 321f, 340, 344
Ukraine, Russian invasion of, 1–2, 115, 121, 125, 137
energy resources and prices and, 2–4, 210, 360
impact on international economy, x–xi
unemployment
Beveridge curve, 23, 23f, 31, 131–32, xiii
historical probability of recession and, 27t, 29t
inflation targeting, 112
NAIB data, 22
NAIB, 17, 22–23, 31, 326
negative, 101, 101f
response to fiscal shock, 85
slow reaction from Fed, 70, 74, 75f, 76, 76f, 78
v/u ratio, 21–22, 21f, 28, 30, 30t
unforced errors, 175–76
unions, 154, 174, 183
United Kingdom
CPI, 1217 to 2016, 205f
wars with France, 269
“unpleasant arithmetic,” 65, 83, 89–97, 91f
US Treasury Securities. See Treasury securities
vacancy-to-unemployment (v/u) ratio, 21–22, 21f, 28, 30, 30t
Vietnam War, 153
Volcker, Paul, 155, 184, 366
Volcker disinflation shock, 144, 155–57, 170
v/u (vacancy-to-unemployment) ratio, 21–22, 21f, 28, 30, 30t
wages
COLAs, 168
cost-push inflation, 182
outsized growth, 125, 126f
Phillips curves and wage indexation, 79
price hikes, 88
supply shocks, 66
wage inflation, 23–25, 25f, 26t
Wallace, Neil, 65, 92–93, 273
Waller, Christopher, 347, 351–52, 353, xxiii
Yellen, Janet, 33, 43, 171
zero lower bound (ZLB), 10, 11, 247, 334
zero-bound era, 64, 80, 81f, 82