

# NOTES

## Introduction

**If you liked micro-oriented titles:** Steven D. Levitt and Stephen J. Dubner, *Freakonomics* (New York: HarperCollins, 2005); Tim Harford, *The Undercover Economist* (New York: Oxford University Press, 2006).

**The Great Inflation shattered leading theories:** See, for example, Robert J. Samuelson, *The Great Inflation and its Aftermath: The Past and Future of American Affluence* (New York: Random House, 2008), 47–74 and Christina Romer, “Macroeconomic Policy in the 1960s: The Causes and Consequences of a Mistaken Revolution,” paper presented at the Economic History Association Annual Meeting (Lyndon B. Johnson Presidential Library, Austin, TX, September 7, 2007). For a contrary view stressing political factors that may have contributed to 1960s and 1970s monetary policy mistakes, see Allan H. Meltzer, “Origins of the Great Inflation,” *The Federal Reserve Bank of St. Louis Review* 87 (2005): 145–75.

**The 1980s recessions were a natural consequence:** For an especially detailed account of the role of 1970s-style Monetarism in early-1980s monetary policies, see William Greider, *Secrets of the Temple: How the Federal Reserve Runs the Country* (New York: Touchstone, 1989).

**The debt and housing bubbles were dismissed or downplayed:** For example, Alan Greenspan argued that the economy works best when financial institutions regulate themselves. When summoned to Capitol Hill after the Lehman bankruptcy, he conceded that “those of us who have looked to the self-interest of lending institutions to protect shareholders’ equity, myself especially, are in a state of shocked disbelief.” See *The Financial Crisis and the Role of Federal Regulators: Hearing Before the Committee on Oversight and Government Reform*, House of Representatives, 110th Cong. (October 23, 2008).

**“a feeling of exuberance in the . . .”:** Volcker quoted in Greider, *Secrets of the Temple*, 332. Greider cites an interview with Volcker conducted by British journalist Stephan Fay.

**“recessions are now generally considered . . .”:** Arthur M. Okun, *The Political Economy of Prosperity* (Washington, DC: The Brookings Institution, 1970), 33.

**“This conclusion on my part . . .”:** Ben S. Bernanke, “The Great Moderation,” speech at the meetings of the Eastern Economic Association, Washington, DC, February 20, 2004.

**economic theory had succeeded:** Robert E. Lucas, Jr., “Macroeconomic Priorities,” *American Economic Review* 93 (2003): 1.

**the “central problem of depression prevention . . .”:** Ibid.

**“assist in flattening out the fluctuations . . .”:** O. M. W. Sprague and W. Randolph Burgess, “Money and Credit and Their Effect on Business,” in *Recent Economic Changes in the United States: Report of the Committee on Recent Economic Changes of the President’s Conference on Unemployment*, published for the National Bureau of Economic Research (New York: McGraw-Hill, 1929), 2:707.

**“It was not demonstrably less . . .”:** Mussa quoted in Andrew Martin, “Michael Mussa, Advisor to Reagan on Economy, Dies at 67,” *New York Times*, January 18, 2012.

**“take away the punch bowl . . .”:** See, for example, Greider, *Secrets of the Temple*, 65.

**“are clannish, drawing a big distinction . . .”:** Rodrik, *The Globalization Paradox* (New York: Norton, 2011), xxi–xxii.

**Mark Twain’s maxim that the majority is always wrong:** Albert Bigelow Paine, ed., *Mark Twain’s Notebook* (New York: Cooper Square, 1972 [1935]), 393.

**a lengthy report that Morgan Stanley published:** Morgan Stanley Research, “MacroVision,” Morgan Stanley, January, 2007.

**GaveKal Research . . . issued a similar dud:** Anatole Kaletsky, “The Recession That Never Was,” GaveKal Research, August 6, 2008.

**I predicted the recession in 2008:** See, for example, Dan Nevins and Ryan Schneck, “Ladies and Gentlemen, Goldilocks Has Left the Building,” SEI Commentary, November 2007. This commentary was watered down for business purposes but still conveyed the likelihood of recession. It reversed an earlier article that flagged growing risks but stopped short of a recession call. Dan Nevins and Ryan Schneck, “The Pareto Principle and the Goldilocks Economy,” SEI Commentary, June 2007.

**the tepid recovery in 2009:** See, for example, Dan Nevins, “2009 Economic Outlook,” SEI Investments, January 2009.

**the low interest rates and inflation that followed:** See, for example, Dan Nevins, “Inflation Outlook: Worrying About Floods During a Drought,” SEI Commentary, July 2009.

**related peaks and troughs of the credit cycle:** These calls were reflected in portfolio strategies and an occasional commentary, such as Dan Nevins and Ryan Schneck, “Research for the Anxious Investor: Recession Risks and High Yield Bonds,” SEI Commentary, April 2007 and Nevins, “2009 Economic Outlook.”

## PART ONE

### Changing the Paradigm

**“It’s not enough to rage against the lie. . . .”:** Paul Hewson (U2’s Bono) quoted in Jonathan Jackson, “Two Hearts Beat As One,” thinkBIG, vol. 3.2, Apr/May 2010.

## CHAPTER 1

### Mainstream versus Old-Time Economics

**“There’s no one left in economics . . .”:** David Colander, *The Making of an Economist, Redux* (Princeton, NJ: Princeton University Press, 2007), 240.

**In response to a question:** I combined the categories “moderately important” and “very important” from data shown in Colander, *The Making of an Economist, Redux*, 25.

**“Of all the economic bubbles . . .”:** “What went wrong with economics?” *The Economist*, July 16, 2009, <http://www.economist.com/node/14031376>.

**Economist Todd Knoop compares this incremental approach:** Todd A. Knoop, *Recessions and Depressions: Understanding Business Cycles*, 2nd ed. (Santa Barbara, CA: Praeger, 2010), 262.

**“perennial gale of creative destruction,”:** Joseph Schumpeter, *Capitalism, Socialism, and Democracy*, Taylor & Francis e-library edition (New York: Routledge, 2003 [1943]), 84.

**“intellectual inbreeding”:** Colander, *The Making of an Economist, Redux*, 240.

**“Even though the relevance of economics . . .”:** *Ibid.*, 233.

**“[Economists] often hide their value judgments . . .”:** Nariman Behraves, *Spin-Free Economics: A No-Nonsense, Nonpartisan Guide to Today’s Global Economic Debates* (New York: McGraw-Hill, 2009), 18–19.

**they also acknowledge that he began his work:** See, for example, Robert Skidelsky, *John Maynard Keynes*, vol. 2, *The Economist as Saviour, 1920–1937* (New York: Allen Lane, 1994).

According to Skidelsky, Keynes “invented theory to justify what he wanted to do” (ibid., 344). Describing the origins of the *General Theory*, he said that Keynes decided to write the book after realizing that his prior book, *A Treatise on Money*, wouldn’t convince politicians to pursue the policies he favored. He explained Keynes’s thinking like this: “In the 1930s new thinkers on both left and right were obsessed with developing a machinery of planning to replace failed market forces, whereas Keynes wanted to supply the market system with enough demand to maintain full employment. His revolution in theory was designed to replace the first route out of capitalist crisis by the second.

“Keynes had already started to feel that practical persuasion had to be based on a new theory. . . . A new explanation of prolonged depression was needed, which the formal apparatus of the *Treatise* could not supply.

“ . . . So he returned to theory with the aim of planting a different model of the economy in the minds of ‘those in authority’ so as to clinch the case for a different kind of policy” (ibid., 438–39).

**In a scene called “Bring Out Your Dead,”**: Graham Chapman, John Cleese, Terry Gilliam, Eric Idle, Terry Jones, and Michael Palin, “Bring Out Your Dead,” *Monty Python and the Holy Grail*, directed by Terry Gilliam and Terry Jones (Culver City, CA: Columbia Pictures, 1975).

**The other book is *Where Keynes Went Wrong***: Hunter Lewis, *Where Keynes Went Wrong: And Why World Governments Keep Creating Inflation, Bubbles, and Busts* (Mount Jackson, VA: Axios, 2009). Lewis meticulously breaks down Keynes’s policy prescriptions and the theories behind them. You can read it front to back or skip around to the policies that interest you.

**“Some accident, which excites . . .”**: John Stuart Mill, *Principles of Political Economy with some of their Applications to Social Philosophy*, 7th ed., ed. W. J. Ashley (London: Longmans, Green, 1909 [1848]), 527.

**“In certain states of the public mind, . . .”**: Ibid.

**“[A] great extension of credit . . .”**: Ibid.

**“The beginning of a period of rising credit . . .”**: Alfred Marshall and Mary Paley Marshall, *The Economics of Industry* (London: Macmillan, 1879), 152.

**“At last an enormous amount of trading . . .”**: Ibid.

**“Though men have the power . . .”**: Ibid., 154–55.

**“The country leaps forward . . .”**: Walter Bagehot, *Lombard Street: A Description of the Money Market* (New York: John Wiley & Sons, 1999 [1873]), 150–52.

**“In so far as the apparent prosperity . . .”**: Ibid., 153–56.

**“The mercantile community will have been . . .”**: Ibid., 156–57.

**Without monetary (credit) factors**: A. C. Pigou, *Industrial Fluctuations*, 2nd ed. (New York: A. M. Kelley, 1967 [1927]), 218–19.

**The same conclusion applies to psychological causes**: Ibid., 219–20.

**The most important real causes**: Ibid., 221–25.

**quiescence, improvement, growing confidence**: Samuel Jones Loyd, *Reflections Suggested by a Perusal of Mr. J. Horsley Palmer’s Pamphlet of the Causes and Consequences of the Pressure on the Money Market* (London: Pelham Richardson, 1837), 44.

**“there is no spoon”**: Andy Wachowski and Lana Wachowski, *The Matrix*, directed by Andy Wachowski and Lana Wachowski (Burbank, CA: Warner Brothers, 1999).

**That’s what Keynes wrote in the *General Theory***: John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (Amherst, New York: Prometheus, 1997 [1936]), 4–26.

**In *Say’s Law and the Keynesian Revolution***: Steven Kates, *Say’s Law and the Keynesian Revolution: How Macroeconomic Theory Lost Its Way* (Cheltenham, UK: Edward Elgar, 1998). Kates surveys the business cycle theories of pre-Keynesian economists while debunking Keynes’s interpretation of Say’s Law. In the *General Theory*, Keynes defined Say’s Law as the notion that aggregate demand can never fall short of aggregate supply, a definition he claimed to be inconsistent with business cycles. Kates shows that the closest thing to Say’s Law—a term that didn’t really exist in the nineteenth century—was the earlier economists’ *law of*

markets, and he then shows that the law of markets was, in fact, a theory of the business cycle. I recommend his book to anyone interested in the history of macroeconomic thought. However, whereas Kates would like to restore the law of markets, I think we can do better and left it out of this book except to point out that the classicists saw recessions originating in mismatches between supply and demand. I don't see the benefit in reviving a debate that usually consisted of economists talking past each other, as stressed by Joseph Schumpeter and Thomas Sowell, both of whom have done excellent work in this area. I draw on Schumpeter's *History of Economic Analysis* in chapters 3 and 4. I also recommend a collection of Sowell's essays on classical economics: Thomas Sowell, *On Classical Economics* (New Haven, CT: Yale University Press, 2006).

## CHAPTER 2

### A Behavioral Look at Booms and Busts

**“How could economics not be behavioral? . . .”:** Charles T. Munger, “The Psychology of Human Misjudgment” (lecture sponsored by the Cambridge Center for Behavioral Studies, Cambridge, MA, October 6, 1994).

**“If you had an invisible hand, . . .”:** Andy Zaltzman, appearing in “Episode 302,” *John Oliver's New York Stand-Up Show*, Comedy Central, August 24, 2012.

**“fundamental human nature”:** Ibid.

**“we would steal things, . . .”:** Ibid.

**“If you look at economics textbooks, . . .”:** Richard H. Thaler and Cass R. Sunstein, *Nudge: Improving Decisions About Health, Wealth, and Happiness* (New York: Penguin, 2008), 6–7.

**we rate ourselves as better:** See, for example, Mark D. Alicke and Olesya Govorun, “The Better-Than-Average Effect,” in *The Self in Social Judgment*, ed. Mark D. Alicke, David A. Dunning, and Joachim I. Krueger (New York: Psychology Press, 2005), 85–106 and Ola Svenson, “Are We All Less Risky and More Skillful Than Our Fellow Drivers?” *Acta Psychologica* 47 (1981): 143–48.

**we're more sure of our expectations:** See, for example, Marc Alpert and Howard Raiffa, “A Progress Report on the Training of Probability Assessors,” in *Judgement Under Uncertainty: Heuristics And Biases*, ed. Daniel Kahneman, Paul Slovic, and Amos Tversky (Cambridge: Cambridge University Press, 1982), 294–305 and Baruch Fischhoff, Paul Slovic, and Sarah Lichtenstein, “Knowing With Certainty: The Appropriateness of Extreme Confidence,” *Journal of Experimental Psychology: Human Perception and Performance* 3 (1977): 552–64.

**“designed to make the best possible case . . .”:** Amos Tversky, “The Psychology of Risk,” AIMR Conference Proceeding, *Quantifying the Market Risk Premium Phenomenon for Investment Decision Making* (1990): 77.

**a seminal study by Baruch Fischhoff and Ruth Beyth–Marom:** Baruch Fischhoff and Ruth Beyth, “I Knew It Would Happen: Remembered Probabilities of Once Future Things,” *Organizational Behavior and Human Performance* 13 (1975): 1–16.

**“Once an event is part of history, . . .”:** Meir Statman, *What Investors Really Want: Discover What Drives Investor Behavior and Make Better Investment Decisions* (New York: McGraw-Hill, 2011), 33.

**“you immediately lose much of your ability to recall . . .”:** Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus & Giroux, 2011), 202.

**Research suggests that our brains:** See, for example, Daniel T. Gilbert, “How Mental Systems Believe,” *American Psychologist* 46 (1991): 107–19.

**Many studies demonstrate the strength and pervasiveness:** See, for example, Charles G. Lord, Lee Ross, and Mark R. Lepper, “Biased Assimilation and Attitude Polarization: The Effects of Prior Theories on Subsequently Considered Evidence,” *Journal of Personality and Social Psychology* 37 (1979): 2098–109 and Lee Ross and Craig A. Anderson, “Shortcomings in the Attribution Process,” in Kahneman, Slovic, and Tversky, *Judgement Under Uncertainty: Heuristics And Biases*, 129–152.

**Financial journalist and author Jason Zweig likens:** Jason Zweig, “How to Ignore the Yes-Man in Your Head,” the *Wall Street Journal* online, November 19, 2009, <http://online.wsj.com/article/SB10001424052748703811604574533680037778184.html>.

**The illusion of control dupes us:** This bias was named by psychologist Ellen Langer in a seminal study that demonstrated the effect. Ellen J. Langer, “The Illusion of Control,” *Journal of Personality and Social Psychology* 32 (1975): 311–28.

**Optimism bias refers to the widespread tendency:** See, for example, Neil D. Weinstein, “Unrealistic Optimism About Future Life Events,” *Journal of Personality and Social Psychology* 39 (1980): 806–20.

**“We like to frolic in the best of all imaginary . . .”:** Daniel Gilbert, *Stumbling on Happiness* (New York: Vintage, 2006), 19.

**“severe and systematic errors”:** Amos Tversky and Daniel Kahneman, “Judgment under Uncertainty: Heuristics and Biases,” *Science* 185 (1974): 1124.

**experimenters read their subjects the names of thirty-nine people:** Amos Tversky and Daniel Kahneman, “Availability: a heuristic for judging frequency and probability,” *Cognitive Psychology* 5 (1973): 220–21.

**people perceive outcomes in relation to the distance:** See, for example, Tversky and Kahneman, “Judgment under Uncertainty: Heuristics and Biases” and Kahneman, *Thinking, Fast and Slow*, 119–28.

**other research shows we don’t look far into the future:** Researchers use different terms for *present bias*, such as *myopia*. Landmark papers include Robert H. Strotz, “Myopia and Inconsistency in Dynamic Utility Maximization,” *Review of Economic Studies* 23 (1956): 165–80 and George Ainslie, “Specious Reward: A Behavioral Theory of Impulsiveness and Impulse Control,” *Psychological Bulletin* 82 (1975): 463–96. More recent research includes George F. Loewenstein and Drazen Prelec, “Preferences for sequences of outcomes,” *Psychological Review* 100 (1993): 91–108; Ted O’Donoghue and Matthew Rabin, “The Economics of Immediate Gratification,” *Journal of Behavioral Decision Making* 13 (2000): 233–50 and Gregory S. Berns, David Laibson, and George Loewenstein, “Intertemporal choice—toward an integrative framework,” *TRENDS in Cognitive Science* 11 (2007): 482–88.

**“Casual observation, introspection, . . .”:** O’Donoghue and Rabin, “The Economics of Immediate Gratification,” 233.

**There can also be an opposite effect:** See, for example, Loewenstein and Prelec, “Preferences for sequences of outcomes” and Berns, Laibson, and Loewenstein, “Intertemporal choice—toward an integrative framework.”

**disgruntled economists sometimes accuse their peers:** See, for example, Paul Ormerod, *The Death of Economics* (London: Faber & Faber, 1994), 3–9.

**“outright declines in mortgage debt . . .”:** Alan Greenspan, “The mortgage market and consumer debt,” speech at America’s Community Bankers Annual Convention, Washington, DC, October 19, 2004.

**“pretty unlikely possibility. . .”:** Ben Bernanke, interviewed by Maria Bartiromo, *Closing Bell*, CNBC, July 29, 2005, reported by Reuters and Bill McBride of *CalculatedRISK* (blog), <http://www.calculatedriskblog.com/2005/07/bernanke-house-prices-unlikely-to.html>.

**house prices declined across the nation:** Robert J. Shiller, *Irrational Exuberance*, 2nd ed. (Princeton, NJ: Princeton University Press, 2005), 13.

**we’re guilty of what author Nassim Taleb calls:** Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007), 62–84.

**“reduce the dimension of matters”:** Taleb, *The Black Swan*, 69.

**Shiller researched the new era stories:** Shiller, *Irrational Exuberance*, 106–31.

**popularity of the phrase new era economy to a 1997 Business Week cover article:** Dean Foust, “Alan Greenspan’s Brave New World,” *Business Week*, July 13, 1997, <http://www.businessweek.com/stories/1997-07-13/alan-greenspan-brave-new-world>.

**an economic “revolution” in which “the old economic rules . . .”:** Ibid.

**“We might model the spread of a story . . .”:** George A. Akerlof and Robert J. Shiller, *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism* (Princeton, NJ: Princeton University Press, 2009), 56.

**“In the absence of more credit, the fraud sprouts . . .”:** Charles P. Kindleberger and Robert Aliber, *Manias, Panics, and Crashes*, 5th ed. (Hoboken, NJ: John Wiley & Sons, 2005), 165.

**Akerlof and Romer described the circumstances:** George A. Akerlof and Paul M. Romer, “Looting: The Economic Underworld of Bankruptcy for Profit,” *Brookings Papers on Economic Activity* (1993 no. 2): 1–73.

**“the balance of power . . .”:** Yves Smith, *ECONned: How Unenlightened Self Interest Undermined Democracy and Corrupted Capitalism* (New York: Palgrave Macmillan, 2010), 167.

**She uses the term looting 2.0:** *Ibid.*, 160–98.

**“The very worst feature . . .”:** *Ibid.*, 167.

**trusted no one inside a Wall Street bond department:** Michael Lewis, *The Big Short: Inside the Doomsday Machine* (New York: Norton, 2010), 95.

**“put on earth to screw . . .”:** *Ibid.*, 92.

**“the greater the praise lavished . . .”:** Michael Lewis, *Liar’s Poker: Rising Through the Wreckage on Wall Street* (New York: Norton, 1989), 184.

**“into identifying a picture of a dog as a cat . . .”:** Thaler and Sunstein, *Nudge*, 56.

**“Insanity in individuals . . .”:** Friedrich Nietzsche, *Beyond Good and Evil*, trans. Helen Zimmern (New York: Modern Library, 1917 [1886]), 88.

**“As long as the music is playing, . . .”:** Prince quoted in Michiyo Nakamoto and David Wighton, “Bullish Citigroup Chief Stays Bullish on Buy-outs,” *Financial Times*, July 9, 2007.

**Prince scored an exit package:** Ben Walsh, “7 of the Most Outrageous Severance Packages in Recent Wall Street History,” *Business Insider*, December 15, 2011, <http://www.businessinsider.com/7-outrageous-severance-packages-2011-12?op=1>.

**retaining the use of an office and driver:** “Departing Citi CEO getting \$29.5 mln exit deal,” *Marketwatch*, November 9, 2007, <http://www.marketwatch.com/story/former-citigroup-ceo-prince-to-get-295-million-plus-bonus>.

**Merrill Lynch CEO Stanley O’Neal walked away with:** Walsh, “7 of the Most Outrageous Severance Packages in Recent Wall Street History.”

**“rationally choosing not to, . . .”:** Shiller, *Irrational Exuberance*, 160.

**“One of the reasons we are so deceived . . .”:** *Ibid.*, 76.

**Tetlock’s team squashed the competition:** Philip Tetlock and Dan Gardner, *Superforecasting: The Art and Science of Prediction* (New York: Crown Publishers, 2015), 17–18.

## CHAPTER 3

### Wicksellians, Misesians, and Minskyites

**“It is perhaps well enough that people . . .”:** 81 Cong. Rec. 2, 528 (March 19, 1937). The quote was recorded in the Congressional Record after a House of Representatives speech by Congressman Charles Binderup. Binderup prefaced the quote with this attribution to Ford: “It was Henry Ford who said, in substance, this . . .”

**“This is probably a change . . .”:** Samuelson quoted in Conor Clarke, “An Interview with Paul Samuelson, Part Two,” *Atlantic*, June 18, 2009, <http://www.theatlantic.com/politics/archive/2009/06/an-interview-with-paul-samuelson-part-two/19627/>.

**he participated in a roundtable discussion:** Martin Feldstein, ed., *The Risk of Economic Crisis* (Chicago: University of Chicago Press, 1991), 135–82.

**a theory called the financial instability hypothesis:** See Hyman P. Minsky, “The Financial Instability Hypothesis: An Interpretation of Keynes and an Alternative to ‘Standard Theory,’” *Hyman P. Minsky Archive* Paper 38 (1975), [http://digitalcommons.bard.edu/hm\\_archive/38](http://digitalcommons.bard.edu/hm_archive/38); Hyman P. Minsky, “The Financial Instability Hypothesis: A Restatement,” *Hyman P. Minsky Archive* Paper 180 (1978), [http://digitalcommons.bard.edu/hm\\_archive/180](http://digitalcommons.bard.edu/hm_archive/180);

and Hyman Minsky, “The Financial Instability Hypothesis: A Clarification” in *The Risk of Economic Crisis*, 158–66.

**“a voice crying out in the wilderness.”**: Paul Samuelson, “A Personal View on Crises and Economic Cycles,” in *The Risk of Economic Crisis*, 169.

**“Wolf! Wolf!”**: Ibid.

**“The boom is critical!”**: Hyman P. Minsky, *John Maynard Keynes* (New York: McGraw-Hill, 2008 [1975]), 140.

**“The financial instability hypothesis is pessimistic.”**: Minsky, “The Financial Instability Hypothesis: A Clarification,” 165.

**“As a recovery approaches full employment . . .”**: Minsky, *John Maynard Keynes*, 126.

**Krugman presented a paper**: Gauti B. Eggertsson and Paul Krugman, “Debt, Deleveraging, and the Liquidity Trap: A Fisher–Minsky–Koo Approach,” *Quarterly Journal of Economics* 127 (2012): 1469–513.

**“Neoclassicals like Krugman read Minsky, . . .”**: Steve Keen, “A Primer on Minsky,” *EconoMonitor* (blog), March 26, 2012, <http://www.economonitor.com/blog/2012/03/a-primer-on-minsky/>.

**Krugman painted his critics as “all wrong.”**: Paul Krugman, “Banking Mysticism, Continued,” *The Conscience of a Liberal* (blog), *New York Times*, March 30, 2012, <http://krugman.blogs.nytimes.com/2012/03/30/banking-mysticism-continued/>.

**“Banks don’t create demand out of thin air . . .”**: Paul Krugman, “Banking Mysticism,” *The Conscience of a Liberal* (blog), *New York Times*, March 27, 2012, <http://krugman.blogs.nytimes.com/2012/03/27/banking-mysticism/>.

**“Any individual bank . . .”**: Krugman, “Banking Mysticism, Continued.”

**“I have worked in bank lending. . . .”**: Dan Nile, comment on Krugman, “Banking Mysticism, Continued,” <http://krugman.blogs.nytimes.com/2012/03/30/banking-mysticism-continued/#permid=21>.

**“Banks create money ex nihilo. . . .”**: Ron T, comment on Krugman, “Banking Mysticism, Continued,” <http://krugman.blogs.nytimes.com/2012/03/30/banking-mysticism-continued/#permid=38:14>.

**“I would strongly suggest you spend some time . . .”**: Neil Wilson, comment on Krugman, “Banking Mysticism, Continued,” <http://krugman.blogs.nytimes.com/2012/03/30/banking-mysticism-continued/#permid=65>.

**“Paul—no shouting, and you’ve been rebutted . . .”**: Hangemhi, comment on Krugman, “Banking Mysticism, Continued,” <http://krugman.blogs.nytimes.com/2012/03/30/banking-mysticism-continued/#permid=68>.

**“It’s obvious that many commenters don’t get . . .”**: Krugman, update to “Banking Mysticism, Continued.”

**the Old Lady published a report that was intended**: Michael McLeay, Amar Radia, and Ryland Thomas, “Money Creation in the Modern Economy,” *Bank of England Quarterly Bulletin* 54 (March 2014): 14–27.

**“Banks do not act simply as intermediaries, . . .”**: Ibid., 14–15.

**“In reality, neither are reserves a binding constraint . . .”**: Ibid., 15–16.

**“Another common misconception is that the central bank . . .”**: Ibid., 15–25.

**Schumpeter complained that economists taught banking incorrectly**: Joseph A. Schumpeter, *History of Economic Analysis*, ed. Elizabeth Boody Schumpeter, Taylor & Francis e-Library ed. (Abingdon: Routledge, 2006 [1954]), 1079.

**They refused to acknowledge that banks manufacture money**: Ibid., 1077.

**Instead, economists viewed the public as the “true lender”**: Ibid., 1079.

**They clung to the falsehood**: Ibid., 1080.

**And that was true of**: Ibid.

**He listed ten economists**: Ibid., 1081–82.

**who taught the “much more realistic” principle**: Ibid., 1080.

as Schumpeter mentioned in his book: Ibid., 1080–81.

**That group included David Hume . . . David Ricardo . . . and Leon Walras:** See David Hume, “Of Money,” in *Essays, Moral, Political, and Literary*, ed. Eugene F. Miller, rev. ed. (Indianapolis: Liberty Fund, 1987), 284–285. For Ricardo’s ideas about replacing bank-created money with “fair competition in the market between the lenders and the borrowers,” see David Ricardo, *Principles of Political Economy and Taxation*, vol. 1 of *The Works and Correspondence of David Ricardo*, ed. Piero Sraffa with the collaboration of M. H. Dobb (Indianapolis: Liberty Fund, 2005), 363–65. For Ricardo’s recommendation to bar note issuance by banks, see David Ricardo, “Plan for the Establishment of a National Bank,” in *Pamphlets and Papers*, 1815–1823, vol. 4 of *The Works and Correspondence of David Ricardo*, 287. Walras’s ideas about bank money are summarized in Schumpeter, *History of Economic Analysis*, 1044.

**economists who didn’t favor outlawing money-creating loans, such as Mill,:** Mill, *Principles of Political Economy*, 524.

**Mill and most others understood:** Ibid., 536–38.

**With his 1802 book *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*:** Henry Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, ed. F. A. v. Hayek (London: George Allen & Unwin, 1939), <http://oll.libertyfund.org/titles/2041>.

**Academics lost sight of earlier conclusions:** Schumpeter put it like this: “Leading economists practically forgot all about ‘creation of additional deposits’ and ‘forced saving,’ so much so that they looked askance at Wicksell’s rediscovery of them . . . these notions, so obviously important and realistic, lived from about 1850 to 1898 a dubious life in the economic underworld—another lesson about the ways of the human mind!” Schumpeter, *History of Economic Analysis*, 694.

**It shows that Mises and Minsky had nearly identical:** To appreciate Minsky’s inner Mises, I suggest contrasting chapters 7–11 of his book *Stabilizing an Unstable Economy* to Austrian economist (and Mises interpreter) Jesús Huerto de Soto’s text *Money, Bank Credit, and Economic Cycles*.

#### APPENDIX TO CHAPTER 3

### Banks Matter, and Here’s One Explanation Why

**I’ll summarize their contributions with an imagined conversation:** My made-up dialog relies mostly on Knut Wicksell, *Interest and Prices*, trans. R. F. Kahn (1936 [1898]; repr., New York: Sentry Press by arrangement with the Royal Economic Society, 1962); Bertil Ohlin, introduction to *Interest and Prices*; Knut Wicksell, “The Enigma of Business Cycles,” trans. Carl G. Uhr, published alongside *Interest and Prices* in the same text; Ludwig von Mises, *The Theory of Money and Credit*, trans. H. E. Batson (New Haven, CT: Yale University Press, 1953 [1912]), and Ludwig von Mises, *Human Action: A Treatise on Economics* (Auburn, AL: Ludwig von Mises Institute, 1998 [1949]).

**MISES: Absolutely. I’m proposing a “circulation credit” theory:** Several variations on Mises’s circulation credit theory go by the name “Austrian business cycle theory.” For a clear, detailed description of the theory and the specific contributions of Mises and Hayek, I recommend Huerto de Soto, *Money, Bank Credit, and Economic Cycles*, 3rd ed., trans. Melinda A. Stroup (Auburn, AL: Ludwig von Mises Institute, 2012 [1998]). For an equally clear but shorter treatment, I recommend Detlev S. Schlichter, *Paper Money Collapse: The Folly of Elastic Money and the Coming Monetary Breakdown* (Hoboken, NJ: John Wiley & Sons, 2011).

#### CHAPTER 4

### Schumpeter’s Schismatic Schema

**“Some . . . regard private enterprise . . .”:** Churchill quoted in Andrew Roberts, “The Role of the State: Why Churchill Changed His Mind,” *Finest Hour* 155 (Summer 2012), 19.

**Schumpeter’s influences, in comparison, were more diverse:** See, for example, the story of



Schumpeter's intellectual development in Thomas K. McCraw, *Prophet of Innovation: Joseph Schumpeter and Creative Destruction* (Cambridge, MA: Belknap Press, 2007).

**“If the good fairies will allot you . . .”:** Paul Samuelson, “Reflections on the Schumpeter I Knew Well,” *Journal of Evolutionary Economics* 13 (2003): 465.

**most of the “fundamental errors” in economics:** Schumpeter, *History of Economic Analysis*, 11.

**“steadfastly refused to take that common-sense view . . .”:** Joseph Schumpeter, *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*, 1st ed. (New York: McGraw-Hill, 1939), 1:138.

**he attributed the Great Depression's first few years:** Schumpeter wrote, “The electrical, chemical, and automobile industries, which together with their subsidiaries and all that directly and indirectly hinges upon them—the motorcar, for instance, is responsible for a great part of the total of postwar construction: roads, garages, gasoline stations, suburban residences—account for 90% of the postwar changes in the industrial organism and for most of the increase in real income. They realized the possibilities created in the . . . prosperity, continued to push ahead from the bases laid before, and by so doing shaped things into a . . . recession” (ibid., 2:753–54). He later argued that what people failed to see, early in the Depression, was that economic fundamentals “would be swamped by the torrents of a process of readjustment corresponding in magnitude to the extent of the industrial revolution of the preceding 30 years” (ibid., 2:793–94).

**He found explanations in public policies:** Schumpeter stated, “The subnormal recovery [from the third quarter of 1932] to 1935, the subnormal prosperity to 1937 and the slump after that are easily accounted for by the difficulties incident to the adaptation to a new fiscal policy, new labor legislation and a general change in the attitude of government to private enterprise all of which can . . . be distinguished from the working of the productive apparatus as such. . . .

“ . . . So extensive and rapid a change of the social scene naturally affects productive performance for a time, and so much the most ardent New Dealer must *and also can* admit.” Schumpeter, *Capitalism, Socialism, and Democracy*, 64–65.

**His diagnosis fits well with Amity Shlaes's:** Amity Shlaes, *The Forgotten Man: A New History of the Great Depression* (New York: HarperCollins, 2007). Shlaes delivers a fast-paced account of key Depression-era events and the personal stories behind them. I also recommend Jim Powell, *FDR's Folly: How Roosevelt and His New Deal Prolonged the Great Depression* (New York: Crown Forum, 2003). Powell references many studies on the economic effects of New Deal programs, while writing mostly from a Monetarist perspective. (I discuss Monetarism later in the book, especially in chapter 8.) For a Misesian perspective, see Murray N. Rothbard, *America's Great Depression*, 5th ed. (Auburn, AL: Ludwig von Mises Institute, 2000 [1963]). For two excellent books that examine 1930s impediments through comparisons to other times and places, see James Grant, *The Forgotten Depression* (New York: Simon & Schuster, 2014) and Charles W. Calomiris and Stephen H. Haber, *Fragile by Design: The Political Origins of Banking Crises and Scarce Credit* (Princeton, NJ: Princeton University Press, 2014). Grant exposes the downside to 1930s “high wage policies.” Calomiris and Haber describe the connections between banking regulations and financial crises. And for an incisive and well-argued Depression analysis in only 163 pages, see Gene Smiley, *Rethinking the Great Depression* (Chicago: Ivan R. Dee, 2002).

**he assigned it to a “Secondary Wave” that “superimposes its effects on . . .”:** Schumpeter, *Business Cycles*, 1:145.

**credit cycles determine the business cycle's amplitude:** Ibid., 1:149–50. Credit cycles appear in Schumpeter's “Secondary Wave,” which is what causes recessions to morph into depressions in his schema. He argued, “the failure of the banking community to function in the way required by the structure of the capitalist machine accounts for most of the events which the majority of observers would call ‘catastrophes’” (ibid., 1:117).

**creative destruction supplies the locomotion:** For example, Schumpeter wrote that “credit creation for the purpose of innovation . . . supplies the chief motive power for the variations in credit outstanding” in credit expansions (ibid., 1:114–15) and that the “regulation of the flow

of funds by banks” is sometimes assigned “a causal role in the economic process which does not belong to it” (ibid., 1:116). In contractions, the behavior of money and credit are “nothing but adaptation to an underlying economic process by which that behavior, as well as the behavior of all aggregative quantities, is explained, while the reverse is not true” (ibid., 1:137).

**They called that risk “disorganization” or “miscalculation”:** Marshall wrote that recessions are characterized by “a state of commercial disorganization.” Marshall and Marshall, *Economics of Industry*, 154. Mill and Pigou used the term *miscalculation*, and other economists described the same idea using terms such as *disproportionality*, *maladjustment*, *misdirection*, *misapplication*, *relative overproduction*, and *bad adaptation*.

**Census Bureau data show a 33% decline:** According to my calculations on Census Bureau data and mirroring a Brookings Institution study, the new business formation rate dropped steadily from 12.8% in the 1980s expansion to 11.0% and 10.3% in the next two expansions to 8.6% in the current expansion. Ian Hathaway and Robert E. Litan, “Declining Business Dynamism in the United States: A Look at States and Metros,” Economic Studies at Brookings, The Brookings Institution, May 2014.

**The data also show a 24% drop:** According to my calculations on Census Bureau data, the reallocation rate fell from 34.5% in the 1980s expansion to 31.5% and 31.0% in the next two expansions to 26.3% in the current expansion.

**“necessarily involves ignoring some evidence . . .”:** Robert E. Lucas, Jr., “Robert E. Lucas, Jr.,” in *Lives of the Laureates: Eighteen Nobel Economists*, 4th ed., ed. William Breit and Barry T. Hirsch (Cambridge MA: MIT Press, 2004), 276.

**“Sometimes my unconscious mind . . .”:** Ibid.

**“This failing can be costly . . .”:** Ibid.

**“The construction of theoretical models . . .”:** Ibid.

**“everything else is just pictures and talk”:** See, for example, ibid., 279.

## PART TWO

### Laying the Foundation

**“If I can’t picture it . . .”:** Attributed to Albert Einstein by John Wheeler, who was quoted in John Horgan, “Questioning the ‘It from Bit,’” *Scientific American*, 1991.

**“The only difference between screwing around . . .”:** Jamie Hyneman and Adam Savage, “Titanic Survival,” *Mythbusters*, season 10, episode 14, Discovery Channel, aired October 7, 2012.

## CHAPTER 5

### A Few Pictures, with Talk: The Six-Cycle Map

**“The physical processes of making and consuming goods . . .”:** Wesley C. Mitchell, *Business Cycles: The Problem and Its Setting*, National Bureau of Economic Research, 1927, 59–60.

**“The economics of textbooks seeks to minimize . . .”:** Akerlof and Shiller, *Animal Spirits*, 5.

**Akerlof wrote a famous paper in 1970 arguing that theory is wrong:** George A. Akerlof, “The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism,” *Quarterly Journal of Economics* 84 no. 3 (1970): 488–500.

**Shiller wrote a famous paper in 1981 arguing that theory is wrong:** Robert J. Shiller, “Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?” *American Economic Review* 71 no. 3 (1981): 421–36.

## CHAPTER 6

### Rules 1, 2, and 3

**“The man who grasps principles . . .”:** This is commonly attributed to Ralph Waldo Emerson, but it doesn’t appear in fairly comprehensive collections of Emerson’s works.

**he was famously taught to skate to where the puck is going:** *Gretzky: An Autobiography*, with Rick Reilly (New York: HarperCollins, 1990), 88.

**as in Samuelson's famous quip that the stock market:** Paul A. Samuelson, "Science and Stocks," *Newsweek*, September 19, 1966.

**Although Edward Leamer hyperbolized the title:** Edward E. Leamer, "Housing IS the Business Cycle," in *Housing, Housing Finance and Monetary Policy, A Symposium Sponsored by the Federal Reserve of Kansas City* (Jackson Hole, WY, August 30–September 1, 2007), 149–233. Much of the content of this paper was also included in an insightful book that Leamer released two years later: Edward E. Leamer, *Macroeconomic Patterns and Stories: A Guide for MBAs* (Berlin: Springer, 2009).

**In a provocative book titled *Ahead of the Curve*:** Joseph H. Ellis, *Ahead of the Curve: A Common Sense Guide to Forecasting Business and Market Cycles* (Boston, MA: Harvard Business School Press, 2005).

**James Hamilton . . . points out that increasing oil prices:** James D. Hamilton, "Historical Oil Shocks," in *The Routledge Handbook of Major Events in Economic History*, ed. Randall E. Parker and Robert Whaples (New York: Routledge, 2013), 239–265.

**In one of Alan Greenspan's more prescient public comments:** Greenspan said, "When you get this far away from a recession invariably forces build up for the next recession, and indeed we are beginning to see that sign . . . For example in the U.S., profit margins . . . have begun to stabilize, which is an early sign we are in the later stages of a cycle." Associated Press, "Greenspan Warns of U.S. Recession Risk," NBCNews.com, February 26, 2007, [http://www.msnbc.msn.com/id/17343814/ns/business-stocks\\_and\\_economy/t/greenspan-warns-us-recession-risk](http://www.msnbc.msn.com/id/17343814/ns/business-stocks_and_economy/t/greenspan-warns-us-recession-risk).

**he predicted that inflation would rise to 8%:** Edward Nelson, "Milton Friedman and U.S. Monetary History: 1961–2006," *The Federal Reserve Bank of St. Louis Review* 89 (2007): 163.

**Then he continued to forecast that inflation:** *Ibid.*

**He also predicted a recession for 1984:** *Ibid.*, 165.

**"Imagine that in some private business . . .":** Benjamin Graham, *The Intelligent Investor: A Book of Practical Counsel*, rev. ed. (New York: Harper, 2006 [1949]), 204–05.

**As scholars Charles Calomiris and Stephen Haber:** Calomiris and Haber, *Fragile by Design*.

**Figure 6.1:** I included the United States, the United Kingdom, France, and the Netherlands in the global aggregate from the 1816 inception, Italy from 1862 (although it's excluded from 1935 to 1936 because of data inconsistencies), Canada and Australia from 1949, Germany from 1955, Spain from 1958, Japan from 1980, and South Korea from 1995. Some countries have published earlier budget balances that I excluded because they blend in financing activities or they don't match up with government debt data or both. For the two largest countries that aren't included until after World War II—Germany and Japan—a longer history would lead to a slightly different picture, but one that ends with the same warning about fiscal profligacy. We can view current trends as threatening because they're unprecedented in the data shown in the chart, or we can view them as threatening because they bring to mind fiscal struggles in, say, the Weimar Republic and Nazi Germany. Either way, today's risks should be clear. I sourced much of the budget data from four books compiled by Brian Mitchell: B. R. Mitchell, *International Historical Statistics: Europe, 1700–1993* (London: Macmillan, 1998); Mitchell, *International Historical Statistics: The Americas 1750–1988* (New York: Stockton Press, 1993); Mitchell, *International Historical Statistics: Africa, Asia & Oceania 1750–1993* (London: Macmillan, 1988); and Mitchell, *British Historical Statistics* (Cambridge: Cambridge University Press, 1988). Some of the United States data comes from Susan B. Carter, Scott Sigmund Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright, eds., *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition* (New York: Cambridge University Press, 2006). For the Netherlands, Frits Bos kindly supplied the budget data that he used in Frits Bos, "The Dutch Fiscal Framework: History, Current Practice and the Role of the Central Planning Bureau," *OECD Journal on Budgeting*

8 no. 1 (2008). Many of the GDP estimates are from Mitchell's books, although substituting GNP or NNP in certain instances. For the period prior to the availability of standard GDP data for the United States, I estimated GDP from data supplied by Carmen Reinhart and Kenneth Rogoff and checked the results against J. P. Smits, P. J. Woltjer, and D. Ma (2009), "A Dataset on Comparative Historical National Accounts, ca. 1870–1950: A Time-Series Perspective," Groningen Growth and Development Centre, Groningen: University of Groningen, <http://www.rug.nl/research/ggdc/activities/projecten/historical-national-accounts?lang=en>. I calculated country weights using Angus Maddison's estimates of world GDP, which are now maintained by the Madison Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>. For most of the US dollar exchange rates after 1914, I used data from [www.measuringworth.com](http://www.measuringworth.com). I took most of the older exchange rates from Mitchell's books, or I derived them from official gold parities. All other data comes from the IMF or the governmental sources listed on the chart. For more detail, see F. F. Wiley, "Technical Notes for 'Why the Next Global Crisis . . .,'" *Cyniconomics* (blog), February 6, 2014, <http://www.cyniconomics.com/2014/02/06/technical-notes-next-crisis/>.

## CHAPTER 7

### A Business Cycle Primer in Just Nine Acronyms

**"[Business] cycles are not, like tonsils, . . .":** Schumpeter, *Business Cycles*, 1:v.

**"designed to convey the study's findings . . .":** Solomon Fabricant, "Toward a Firmer Basis of Economic Policy: The Founding of the National Bureau of Economic Research," National Bureau of Economic Research, 1984, 11.

**"by issuing a little book . . .":** Wesley C. Mitchell, *Annual Report of the Director of Research*, National Bureau of Economic Research, February 6, 1922, 4.

**"the national income of the American people and its distribution.":** Wesley C. Mitchell, *Annual Report of the Director of Research to the Board of Directors*, National Bureau of Economic Research, February 7, 1921, 1.

**Two years later, the Department of Commerce published:** Wesley C. Mitchell, *The National Bureau's First Quarter Century*, National Bureau of Economic Research, 1945, 18.

**"a significant decline in activity spreads . . .":** NBER Business Cycle Dating Committee, "Statement of the NBER Business Cycle Dating Committee on the Determination of the Dates of Turning Points in the U.S. Economy," National Bureau of Economic Research, [http://www.nber.org/cycles/general\\_statement.html](http://www.nber.org/cycles/general_statement.html).

**the recession that began in December 2007:** NBER Business Cycle Dating Committee, "Information on Recessions and Recoveries, the NBER Business Cycle Dating Committee, and Related Topics," National Bureau of Economic Research, <http://www.nber.org/cycles/main.html>.

**recessions weren't declared until they were later:** Ibid.

## CHAPTER 8

### Rule 4 and Lessons from the Great Depression

**"With all our Yankee inventiveness . . .":** Charles E. Persons, "Credit Expansion, 1920 to 1929, and Its Lessons," *Quarterly Journal of Economics* 45 no. 1 (1930): 119.

**unemployment was a huge problem for most of:** The unemployment rate fell to a trough of 14.3% in 1937 from a peak of 25.2% in 1933. It then rose again to 19.1% in 1938, followed by 17.2% in 1939, 14.6% in 1940, 9.9% in 1941 and 4.7% in 1942. US Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970* (Washington, DC, 1975), 1:126.

**Businesses pushed nonresidential construction to 5.3%:** Based on my calculations using the BEA's GDP data.

**Construction then dropped by 14%, 36%, 39%, and 22%:** This, too, is based on my calculations using GDP data.

**securities loans to households soared to \$11.6 billion:** Raymond W. Goldsmith, Robert E. Lipsey, and Morris Mendelson, *Basic Data on Balance Sheets and Fund Flows*, vol. 2 of *Studies in the National Balance Sheet of the United States*, published for the National Bureau of Economic Research (Princeton, NJ: Princeton University Press, 1963), 78–79.

**That’s about four times higher:** Based on my calculations using the Fed’s flow-of-funds data, the BEA’s GDP data, and Goldsmith and Lipsey, *Studies in the National Balance Sheet of the United States*.

**Subprime mortgages, in comparison, were just under 10%:** Compared to the BEA’s GDP figure of \$14.5 trillion for 2007, outstanding subprime mortgages were estimated at \$1.3 trillion as of March of that year. See “Snapshot of the Subprime Market,” Center for Responsible Lending, November 27, 2007, <http://www.responsiblelending.org/mortgage-lending/tools-resources/a-snapshot-of-the-subprime.html> (accessed February 13, 2015).

**Consumer durable-goods purchases reached 9.4%:** Based on my calculations using GDP data.

**More than 24% of households bought a car in 1929:** Martha L. Olney, “Avoiding Default: The Role of Credit in the Consumption Collapse of 1930,” *Quarterly Journal of Economics* 114 (1999): 324.

**carried a “sense of shame,”:** Ibid., 327. Olney also described the Consumer Durables Revolution in detail in Martha L. Olney, *Buy Now, Pay Later: Advertising, Credit, and Consumer Durables in the 1920s* (Chapel Hill, NC: University of North Carolina Press, 1991).

**Consumers bought more than 60% of the decade’s new cars:** Ibid., 324.

**installment debt doubled from 3% in 1920:** My calculations on Olney’s data (ibid., 321).

**Interest rates reached 30% to 40%:** Ibid., 322.

**with no recovery of the surplus value:** Ibid., 320.

**From 1925 until a lending peak in 1928:** See, for example, Ilse Mintz, *Deterioration in the Quality of Foreign Bonds Issued in the United States, 1920–1930*, National Bureau of Economic Research, 1951, <http://catalog.hathitrust.org/Record/002899569>.

**Midwestern banks, especially, were happy:** See, for example, Scott Reynolds Nelson, *A Nation of Deadbeats: An Uncommon History of America’s Financial Disasters* (New York: Vintage Books, 2012), 220 and Mintz, *Deterioration in the Quality of Foreign Bonds*, 83–84.

**banks evaded regulations and kept foreign lending:** See, for example, Nelson, *A Nation of Deadbeats*, 219. Nelson wrote that the securities arms of major banks—many of them relatively new—leapt into action in the 1920s. He reported that securities affiliates were established by Citibank (then called National City Bank) in 1911, Chase in 1917, and Bank of America in 1928. He also pointed out that J.P. Morgan and Kuhn, Loeb (later part of Lehman Brothers) weren’t member banks of the Federal Reserve System and, therefore, weren’t subject to the same restrictions that caused the other banks to push bond issuance through affiliates. Notably, congressional testimony in 1931–32 suggested that J.P. Morgan and Kuhn, Loeb stood apart from the frenzied competition for foreign business, sticking instead with the old-time practice of waiting for foreign borrowers to come to them. Mintz excerpted that testimony and backed it with data in *Deterioration of the Quality of Foreign Bonds Issued in the United States, 1920–1930*, while reporting that Morgan and Kuhn Loeb had two of the three lowest default rates of the eleven issuers she studied.

**The US government was closely involved:** See, for example, Liaquat Ahamed, *Lords of Finance: The Bankers Who Broke the World* (New York: Penguin, 2009) and Murray Rothbard, *America’s Great Depression*, 5th ed. (Auburn, AL: Ludwig von Mises Institute, 2000 [1963]), 140–42.

**As Keynes wrote when offering guidance for “abolishing” slumps:** Here’s the full excerpt, clever as usual: “The right remedy for the trade cycle is not to be found in abolishing booms and thus keeping us permanently in a semi-slump; but in abolishing slumps and thus keeping us permanently in a quasi-boom.” Keynes, *General Theory*, 322.

**In November 1930, economist Charles Persons published:** Persons, “Credit Expansion, 1920 to 1929, and Its Lessons,” 94–130.

**“While the new credit is expanding to its justified limits, . . .”:** *Ibid.*, 129–30.

**“The end of the inflationary period comes when . . .”:** *Ibid.*, 120.

**it always “snaps back” once credit thresholds are breached:** *Ibid.*

#### APPENDIX TO CHAPTER 8 Everybody’s Favorite Scapegoat

**But *Monetary History* never properly accounted for a central piece of the picture:** See, for example, Milton Friedman and Anna J. Schwartz, “Money and Business Cycles,” in Anna J. Schwartz, *Money in Historical Perspective* (Chicago: University of Chicago Press, 1987), 24–77. This paper was first published in 1963 and introduced the thesis of *Monetary History*, which came out later in the same year. The paper included a list of several possible causes of an increase in the quantity of money, with bank lending only appearing by implication through the last item on the list (a rise in the deposit–reserve ratio): “In tracing the hypothetical effects of the higher rate of growth of the money stock, there will be some difference in detail depending on the source of the increase—whether from gold discoveries, or central bank open-market purchases, or government expenditures financed by fiat money, or a rise in the deposit–currency ratio, or a rise in the deposit–reserve ratio” (*ibid.*, 65). But they only elaborated on one of those causes, by offering a “tentative sketch” of how open-market purchases might work their way through the economy. They dismissed the need to explore the other causes, declaring that “whatever the initial [monetary] impulse, commercial banks will play a key role in transforming it into an increased rate of growth in the money stock, and this will impose a large measure of uniformity on the outcome” (*ibid.*, 67). This passage demonstrates two weaknesses in the Friedman–Schwartz system. First, they assigned commercial banks a role of *transforming* the initial monetary impulse rather than *creating* it. In other words, Friedman and Schwartz upheld the inaccurate story that money comes first and bank lending follows. Second, they insisted that it doesn’t matter where the extra money comes from; they expected to see “a large measure of uniformity” in the outcome of an increase in money, “whatever the initial impulse.”

**Then they declared that the underlying mechanism:** For example, they wrote, “It is one thing to assert that monetary changes are the key to major movements in money income; it is quite a different thing to know in any detail what is the mechanism that links monetary change to economic change. . . . We have little confidence in our knowledge of the transmission mechanism, except in such broad and vague terms as to constitute little more than an impressionistic representation rather than an engineering blueprint.” Schwartz, *Money in Historical Perspective*, 58. Even as late as 1982, nineteen years after publishing *A Monetary History*, they wrote, “There is as yet no satisfactory and widely accepted description, in precise quantifiable terms, of the dynamic temporal process of adjustment—though in recent decades much research has been devoted to this question. It remains a challenging subject for research.” Milton Friedman and Anna J. Schwartz, *Monetary Trends in the United States and the United Kingdom: Their Relation to Income, Prices, and Interest Rates, 1867–1975*, published for the National Bureau of Economic Research (Chicago: University of Chicago Press, 1982), 27.

**they proposed that “there is a fairly definite real quantity of money . . .”:** Friedman and Schwartz, *Monetary Trends in the United States and the United Kingdom*, 18–19.

**they considered banks to be conduits:** See earlier note on Friedman and Schwartz not properly accounting for bank lending.

**Friedman and Schwartz treated all money equally:** Once again, see earlier note on Friedman and Schwartz not properly accounting for bank lending.

**while admitting they didn’t fully understand why:** See, for example, the excerpts in the previous note on the transmission mechanism being a puzzle of sorts. Late in his career, Friedman

again stressed his incomplete understanding of the role of money, offering the following explanation for his unyielding support for a fixed money-growth target: “It was partly a case based on ignorance, based on the fact that we really did not understand sufficiently well the detailed relationship between money, income, interest rates, and the like to be able to fine-tune.” Nelson, “Milton Friedman and U.S. Monetary History: 1961–2006,” 172. But even more telling than that comment is Friedman’s famous argument that the accuracy of your underlying assumptions has no bearing on the validity of your theory. Milton Friedman, “The Methodology of Positive Economics,” in *Essays in Positive Economics* (Chicago: University of Chicago Press, 1953), 3–43. He may have truly believed that we all meticulously adjust our currency and bank balances to targeted levels and that this continual re-jiggering is the economy’s predominant, driving force; it seems more likely, though, that he relied mostly on the historical correlation between money and activity as proof of causation.

**Net lending by banks and broker-dealers actually fell:** Net lending refers to total asset and liability flows across the credit market instrument, repo loan, and nondeposit interbank loan categories of the Fed’s flow of funds report (also known as the Z.1). The data show that banks refrained from expanding their net lending activities during the QE programs, even as they expanded at a healthy clip during the two quarters in between QE1 and QE2 and the five quarters in between QE2 and QE3. In other words, the extra bank reserves created by QE weren’t so much an *addition* to bank balance sheets as a *substitution*. They appeared to replace other forms of balance sheet expansion. The substitution story may seem counterintuitive, but it “makes sense” if you consider that banks can easily neutralize QE’s effects with derivatives overlays and other portfolio adjustments. They can rearrange exposures to mimic a balance sheet of equal size and risk that’s not stuffed with reserves. Therefore, bankers may not have a strong incentive to replace the physical securities that they trade for reserves during a QE program. After breaking down the data into QE and non-QE periods, I described the results like this: “Your banker already knows how many slices of meat he wants in his sandwich. When the Fed shows up with a thick package straight from the deli, it saves him a trip of his own. He still makes the same-sized sandwich, but it’s filled mostly by central bankers, and he adjusts it to his liking by varying the condiments.” The analogy may not be 100% accurate, but it appears to be close.

## CHAPTER 9

### A Closer Look at the Core Business and Housing Cycles

**this means that the flow gets larger as bank credit expands:** For an algebraic and more detailed version of figure 9.2, see Minsky, *John Maynard Keynes*, 131–34.

## PART THREE

### Outperforming the Experts

**“Experts often possess more data . . .”:** Colin Powell quoted in Owen Harari, *The Leadership Secrets of Colin Powell* (New York: McGraw-Hill, 2002), 256.

## CHAPTER 10

### Rules 5 and 6

**“There are many things of which a wise man . . .”:** Ralph Waldo Emerson, *The Complete Works of Ralph Waldo Emerson*, Concord ed., ed. Edward Waldo Emerson, vol. 10, *Lectures and Biographical Sketches* (Boston: Houghton, Mifflin, 1904), 21.

**Statistical correlations show three types of spending:** These are the only sub-categories of the BEA’s personal consumption expenditures data that show correlations with residential investment growth of greater than 0.6, based on annual data from 1951 through 2011 and the author’s calculations.

## CHAPTER 11

### From Boot Camp to the Battlefield

**WIZARD OF OZ: “They have one thing you haven’t . . .”**: L. Frank Baum, Noel Langley, Florence Ryerson, and Edgar Allen Woolf, *The Wizard of Oz*, directed by Victor Fleming (Culver City, CA: Metro-Goldwyn-Mayer, 1939).

**Empirical studies demonstrate the negativity effect at work**: See, for example, Judith Chevalier and Glenn Ellison, “Career Concerns of Mutual Fund Managers,” *Quarterly Journal of Economics* 114 (1999): 389–432 and Harrison Hong, Jeffrey D. Kubik, and Amit Solomon, “Security Analysts’ Career Concerns and Herding of Forecasts,” *RAND Journal of Economics* 31 (2000): 121–44.

**“For it is the essence of his behavior . . .”**: Keynes, *General Theory*, 157–58.

**“In any great organization, it is far, far, better . . .”**: Galbraith quoted in the *Manchester Guardian*, July 28, 1989, as quoted in Margaret Miner and Hugh Rawson, eds., *The Oxford Dictionary of American Quotations*, 2nd ed. (New York: Oxford University Press, 2006), 402.

**“faced with the choice between changing one’s mind and proving . . .”**: John Kenneth Galbraith, *A Contemporary Guide to Economics, Peace, and Laughter*, ed. Andrea D. Williams (Boston: Houghton Mifflin, 1971).

**“I think it’s fair to say,”**: Poole quoted in Greider, *Secrets of the Temple*, 543.

**“The moment a person forms a theory, his imagination . . .”**: Thomas Jefferson, letter to Charles Thompson, September 20, 1787, in *The Works of Thomas Jefferson*, ed. Paul Leicester Ford (New York: Knickerbocker Press, 1904), 5:352.

**Grim described the Fed’s methods of quashing dissent**: Ryan Grim, “Priceless: How the Federal Reserve Bought the Economics Profession,” *Huffington Post*, May 25, 2011, [http://www.huffingtonpost.com/2009/09/07/priceless-how-the-federal\\_n\\_278805.html](http://www.huffingtonpost.com/2009/09/07/priceless-how-the-federal_n_278805.html).

**George Bernard Shaw once called for a character**: Bernard Shaw, *The Doctor’s Dilemma: A Tragedy* (London: Constable, 1922), 28.

**“so absurd that only very learned men . . .”**: Bertrand Russell, *My Philosophical Development* (New York: Simon and Schuster, 1959), 148.

**“The first principle is that you must not fool yourself, . . .”**: Richard P. Feynman, *The Pleasure of Finding Things Out: The Best Short Works of Richard P. Feynman*, ed. Jeffrey Robbins (Cambridge, MA: Perseus, 1999), 212.

## APPENDIX TO CHAPTER 11

### Behavioral Economics in the Age of Enlightenment

**“Oh my God! They killed Kenny!”**: Matt Stone and Trey Parker, *South Park*, Comedy Central.

**“JUPITER, in the beginning . . .”**: David Hume, “Of Impudence and Modesty,” in *Essays, Moral, Political, and Literary*, 554.

**“Wisdom, who was the guide . . .”**: *Ibid.*, 554–55.

**“Confidence went directly up to . . .”**: *Ibid.*, 555.

**“Mankind, who saw these societies . . .”**: *Ibid.*, 556.

## CHAPTER 12

### Rules 7 and 8

**“The real average hourly earnings series is, . . .”**: Ellis, *Ahead of the Curve*, 133.

**“workers are invariably hired after the economy improves, . . .”**: *Ibid.*, 109.

**detailed analysis of the declining growth of “breadwinner jobs”**: See, for example, David Stockman, *The Great Deformation: The Corruption of Capitalism in America* (New York: Public Affairs, 2013), 631–48.

**PSST acknowledges that it takes time**: You can find the relevant papers on [www.arnoldkling.com](http://www.arnoldkling.com).



com/essays/papers/. In addition to his PSST theory, I recommend Kling's blog ([www.arnold-kling.com/blog/](http://www.arnold-kling.com/blog/)) and his 2014 book, *Memoirs of a Would-Be Macroeconomist*.

**Hayek once wrote that “the best test of an economist”:** Friedrich A. Hayek, *The Pure Theory of Capital* (London: Routledge & Kegan Paul, 1941), 439. As noted in that book, Hayek was echoing the words of Leslie Stephen in *History of English Thought in the Eighteenth Century*.

**He wrote about revolutions and mutations while arguing:** Schumpeter, *Capitalism, Socialism, and Democracy*, 83.

**“every piece of business strategy . . . must be seen . . .”:** *Ibid.*, 83–84.

**“a form or method of economic change . . .”:** *Ibid.*, 82.

**After World War II, for example, he saw ample opportunities:** McCraw, *Prophet of Innovation*, 387–91.

**At the same time that leading Keynesians were predicting:** In addition to the same pages of McCraw's *Prophet of Innovation* from the previous citation, see contemporary accounts of mid-1940s predictions for the economy, such as Lawrence R. Klein, “A Post-Mortem on Transition Predictions of National Product,” *Journal of Political Economy* 54 (1946): 298–308 and W. S. Woytinsky, “What Was Wrong in Forecasts of Postwar Depression,” *Journal of Political Economy* 55 (1947): 142–51. Also, Paul Samuelson famously published a series of pessimistic predictions for the postwar economy, such as Paul A. Samuelson, “Unemployment Ahead: The Coming Economic Crisis,” *New Republic*, September 18, 1944.

**Recall that the Fed glimpsed:** See, for example, Greg Ip, “Citing Deflation, Fed Cuts Rates by a Quarter Point,” the *Wall Street Journal* online, June 26, 2003.

**Schumpeter went so far as to claim:** Schumpeter, *Capitalism, Socialism, and Democracy*, 83.

## CHAPTER 13

### What's in an Economic Checkup?

**“If you've got a full list of tools . . .”:** Charles T. Munger, “Academic Economics: Strengths and Faults after Considering Interdisciplinary Needs” (lecture sponsored by the University of California, Santa Barbara, Economics Department, Santa Barbara, CA, October 3, 2003), in *Poor Charlie's Almanack: The Wit and Wisdom of Charles T. Munger*, expanded 3rd ed., ed. Peter D. Kaufman (PCA Publication, 2008), 383.

## CHAPTER 14

### Rules 9 and 10

**“Data do not speak for themselves . . .”:** Allen J. Wilcox, “On Sperm Counts and Data Responsibility,” *Epidemiology* 22 (2011): 615–16.

**that relies on a either few thousand:** See Abbas Valadkhani, “Macroeconomic Modelling: Approaches and Experiences in Development Countries,” *Applied Econometrics and International Development* 5-1 (2005) and Richard Gary Greenberg, “Simultaneous Equations in the Model System with an Application to Econometric Modelling,” Department of Computer and Information Science Technical Reports, University of Pennsylvania (1981).

**“The models may seem impressive . . .”:** Ormerod, *The Death of Economics*, 103.

## CHAPTER 15

### One Soup Recipe to Consider

**“One has not only an ability to perceive . . .”:** Tom Robbins, *Even Cowgirls Get the Blues*, Bantam trade paperback reissue (New York: Bantam, 2003 [1977]), 72.

**At the pivotal moment in the movie *Kung Fu Panda*:** Jonathan Aibel, Glenn Berger, Ethan Reiff, and Cyrus Voris, *Kung Fu Panda*, directed by Mark Osborne and John Stevenson (Hollywood, CA: Paramount Pictures, 2008).

**It failed to predict the 1981–83, 1990–91 and 2001 recessions:** See “Crystal Balls-Up,” *The Economist*, September 26, 2002, <http://www.economist.com/node/1336155>.

**In the 2008–9 recession:** The Conference Board, “Business Cycle Indicators,” February 2010.

**Technical documents show results for Markov switching:** See, for example, Gad Levanon, Adaman Ozyildirim, Brian Schaitkin, and Justyna Zabinska, “Comprehensive Benchmark Revisions of The Conference Board Leading Economic Index for the United States,” The Conference Board Economic Program Working Paper Series 11-06 (2011) and Gad Levanon, Jean-Claude Manini, Adaman Ozyildirim, Brian Schaitkin, and Jennelyn Tanchua, “Using a Leading Credit Index to Predict Turning Points in the U.S. Business Cycle,” The Conference Board Economic Program Working Paper Series 11-05 (2011).

**Dawes and Dana reviewed a variety of studies showing:** See Jason Dana and Robyn M. Dawes, “The Superiority of Simple Alternatives to Regression for Social Science Predictions,” *Journal of Educational and Behavioral Statistics* 29 (2004): 317–31 and Robyn M. Dawes, “The Robust Beauty of Improper Linear Models in Decision Making,” *American Psychologist* 34 (1979): 571–82.

**“developed forecasting tools that leave the LEI . . .”:** Lakshman Achuthan and Anirvan Banerji, *Beating the Business Cycle: How to Predict and Profit from Turning Points in the Economy* (New York: Doubleday, 2004), Nook edition, 58.

**They’ve likened the LEI to a Model T Ford:** Ibid.

**“depending on the LEI to predict turning points . . .”:** Ibid.

**“nobody would rely on one . . .”:** Ibid.

**They published recession calls:** See, for example, “Crystal Balls-Up.”

#### PART FOUR

#### Taking the Red Pill

**“You take the blue pill . . .”:** Wachowski and Wachowski, *The Matrix*.

#### CHAPTER 16

#### Black Swan Excuses, Part 1

**“It is not a good habit to stuff . . .”:** Taleb, *The Black Swan*, 201.

**“are quite ashamed to say anything outlandish . . .”:** Ibid., 149.

**Because predictors are consistently:** Ibid.

**“It is ludicrous to believe . . .”:** Lewis, *The Big Short*, 55.

**Greenspan, for one, refused:** Alan Greenspan, interviewed by Al Hunt, *Political Capital with Al Hunt*, Bloomberg Television, March 27, 2010, transcript available at <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aSz2YagHA2Yk>. See also Michael J. Burry, “I Saw the Crisis Coming. Why Didn’t the Fed?” *New York Times*, April 3, 2010.

**he followed that by saying:** Ibid.

**“it was a Black Swan and you are not supposed . . .”:** Ibid., 152.

**Taleb accepted that there are such things as Gray Swans:** Ibid., 213.

#### CHAPTER 17

#### Black Swan Excuses, Part 2

**“Yes, they have tricks up their sleeves . . .”:** Mark Grant [The Wizard, pseud.], quoted in “Fighting With Spanish Windmills,” guest post on *ZeroHedge*, March 29, 2012, <http://www.zerohedge.com/news/fighting-spanish-windmills-or-how-spains-debtgdp-ratio-double-what-reported>.

**“show stable returns for long periods. . .”:** Nassim Nicholas Taleb, *Fooled by Randomness*:

*The Hidden Role of Chance in Life and in the Markets*, 2nd ed. (New York: Random House, 2005), 109–110.

“pushing randomness under the rug.”: *Ibid.*, 111.

## CHAPTER 18

### More Pictures and Talk: The Hierarchy of Risks

“**The crisis takes a much longer time coming . . .**”: Rudi Dornbusch, interviewed by PBS *Frontline* production team for “Murder, Money, & Mexico,” PBS, 1997, transcript available at <http://www.pbs.org/wgbh/pages/frontline/shows/mexico/interviews/dornbusch.html>.

**Economist Irving Fisher famously blamed such debt deflation:** See Irving Fisher, “The Debt-Deflation Theory of Great Depressions,” *Econometrica* 1 (1933): 337–57.

**dependent on volatile global markets for:** “Agriculture and Rural Development in MENA,” Sector Brief, The World Bank Group, September 2008.

“**The fellow that can only see a week ahead . . .**”: Will Rogers, “Political Rodeos,” *Tulsa Daily World*, November 17, 1929, cited in Will Rogers, *The Hoover Years: 1929–1932*, vol. 4 of *Will Rogers’ Weekly Articles*, ed. Stephen K. Gragert, rev. ed. (Claremore, OK: Will Rogers Memorial Museums, 2010), 76.

**California’s Orange County declared bankruptcy after losing \$1.7 billion:** See, for example, Mark Platte, Lee Romney, and Matt Lait, “O.C. Fund Is Stabilized, Loss Is \$1.69 Billion, Officials Say,” *Los Angeles Times*, January 19, 1995, [http://articles.latimes.com/1995-01-19/news/mn-21989\\_1\\_orange-county](http://articles.latimes.com/1995-01-19/news/mn-21989_1_orange-county).

**GDP in the five largest . . . shrank by 8.3%:** My calculations using the IMF’s *World Economic Outlook* database, <http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/index.aspx>.

**By the war’s end in 1918:** Niall Ferguson, *The Ascent of Money: A Financial History of the World* (New York: Penguin, 2008), 101.

**The Republic’s leaders didn’t seem to understand:** Senior German officials believed their money printing was a consequence rather than a cause of inflation, according to evidence compiled by Adam Ferguson. They blamed inflation on balance-of-payments pressures and a weak currency, which they further believed to be an inevitable consequence of reparation payments. Adam Ferguson, *When Money Dies: The Nightmare of Deficit Spending, Devaluation, and Hyperinflation in Weimar Germany* (New York: PublicAffairs, 2010 [1975]), 70–75, 89–90, 123, and 250–255. Niall Ferguson tells a slightly different story, however, arguing that Reichsbank officials understood that money printing contributes to inflation, even if they didn’t anticipate hyperinflation. He regarded inflation as a deliberate political strategy. Niall Ferguson, *Paper and Iron: Hamburg Business and German Politics in the Era of Inflation, 1897–1927* (Cambridge: Cambridge University Press, 1995), 4 and 286.

**A steady pace of antigovernment rallies, labor actions, and political murders:** See, for example, Ferguson, *When Money Dies*, 27–45.

**Hyperinflation took hold in mid-1922:** *Ibid.*, 73.

**By summer 1923, the government was financed:** *Ibid.*, 142–43, 151–52, 173 and 178.

**To produce notes with ever higher denominations:** Schacht provided figures of “133 printing works with 1783 machines,” as noted in Ahamed, *Lords of Finance*, 121.

**Thieves sometimes took the baskets:** Ferguson, *When Money Dies*, 140.

**Merchants updated prices throughout the day:** *Ibid.*, 165 and Karl R. Bopp, “Haljmar Schacht: Central Banker,” *The University of Missouri Studies* 14 (Jan. 1 1939): 13, quoted in Robert Schenk, “A Case of Inflation,” *CyberEconomics*, <http://ingrimayne.com/econ/EconomicCatastrophe/HyperInflation.html> (accessed October 11, 2012).

**bread prices inflated at an hourly rate:** Although other sources of food prices yielded similar estimates, I used bread prices that were etched into two commemorative medals dated November 1, 1923 and November 15, 1923. You can view the coins on the online museum

of the Sunflower Foundation, <http://www.moneymuseum.com/moneymuseum/coins/periods/coin.jsp?i=8&aid=8&gid=16&cid=94&pi=2&ps=10> and <http://www.moneymuseum.com/moneymuseum/coins/periods/coin.jsp?i=9&aid=8&gid=16&cid=94&pi=2&ps=10> (accessed October 11, 2012).

**frantic spending and easy business credit:** Fergusson, *When Money Dies*, 74, 81, 109 and 230.

**But inflation ran ahead of wages:** *Ibid.*, 56, 84, and 108–116.

**many farmers stopped sending produce:** *Ibid.*, 164, 180–83, and 200–201.

**“In hyperinflation, a kilo of potatoes . . .”:** *Ibid.*, 256.

**“It is indisputable that in those . . .”:** *Ibid.*, 250.

## CHAPTER 19

### Eight Things I Think I Think

**“I have often asked myself, . . .”:** Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Penguin, 2005), 114.

**Most theorists at that time believed just the opposite:** Mancur Olson Jr., *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge, MA: Harvard University Press, 1965), 111–31.

**Olson upped the ante with his 1982 book:** Olson, *The Rise and Decline of Nations: Economic Growth, Stagflation and Social Rigidities* (New Haven, CT: Yale University Press, 1982).

**Political Action Committees (PACs) raised \$2.2 billion in 2016:** “PAC Summary: Total Raised/Total to Candidates,” Center for Responsive Politics, <http://www.opensecrets.org/pacs/> (accessed February 16, 2017).

**while the relatively new “super PACs”:** “Super PACs,” Center for Responsive Politics, <http://www.opensecrets.org/pacs/superpacs.php?cycle=2016/> (accessed February 16, 2017).

**Lobbying spending exceeded \$3 billion:** “Lobbying Database,” Center for Responsive Politics, <http://www.opensecrets.org/lobby/> (accessed February 16, 2017).

**seven times an inflation-adjusted estimate for 1983 spending:** Lee Jared Drutman, “The Business of America is Lobbying: The Expansion of Corporate Political Activity and the Future of American Pluralism” (Phd diss., University of California, Berkeley, 2010), 1, [http://www.leedrutman.com/uploads/2/3/0/1/2301208/lee\\_drutman\\_phd\\_dissertation.pdf](http://www.leedrutman.com/uploads/2/3/0/1/2301208/lee_drutman_phd_dissertation.pdf) (accessed February 15, 2015).

**Federal subsidy programs topped two thousand in 2010:** Posted by Chris Edwards on *Cato@Liberty*. “Federal Subsidy Programs top 2,000!” Cato Institute, <http://www.cato-at-liberty.org/federal-subsidy-programs-top-2000/> (accessed November 6, 2012).

**The tax code expands endlessly—to more than:** “Federal Tax Law Keeps Piling Up,” CCH, a Walter Kluwer business, [http://www.cch.com/wbot2011/WBOT\\_TaxLawPileUp\\_\(28\)\\_f.pdf](http://www.cch.com/wbot2011/WBOT_TaxLawPileUp_(28)_f.pdf) (accessed November 6, 2012).

**“Continued deficit spending is immoral.”:** Dwight D. Eisenhower, speech at Republican Congressional Testimonial Dinner, National Guard Armory, Washington, DC, June 1, 1961.

**economist Christina Romer found that it’s “nearly impossible . . .”:** Romer, “Macroeconomic Policy in the 1960s: The Causes and Consequences of a Mistaken Revolution,” 10.

**She concluded that fiscal discipline became “almost superfluous . . .”:** *Ibid.*

**She also scoured the public record:** *Ibid.*, 11–13.

**as the trustees for our biggest entitlement programs readily admit:** See, for example, US Department of the Treasury and Office of Management and Budget, *2013 Financial Report of the United States Government* (Washington, DC: US Department of the Treasury, 2014), 15; *2014 Annual Report of the Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds* (Washington, DC: Social Security Administration, 2014), 23–25; or *2014 Annual Report of the Board of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds* (Washington, DC: Centers for Medicare & Medicaid Services, 2014), 42–44.

**“[Seniors] are all taking out more than . . .”:** Stanley Druckenmiller, interviewed by Maria Bartiromo, *Closing Bell*, CNBC, February 21, 2013, linked by Tyler Durden of *ZeroHedge*, <http://www.zerohedge.com/news/2013-02-21/stanley-druckenmiller-we-have-entitlement-problem-and-one-day-feds-hamster-wheel-wil>.

**“I am not against seniors. . . .”:** Stanley Druckenmiller, interviewed by Stephanie Ruhle, Bloomberg Television, March 1, 2013, linked by Tyler Durden of *ZeroHedge*, <http://www.zerohedge.com/news/2013-03-01/druckenmiller-currently-i-see-storm-coming>.

**Figure 19.3:** This chart uses every data source listed in the endnote for figure 6.1. It also uses military spending data, some of which came from the same sources (all of the United States data and the United Kingdom data up until 1979). For 1988–2012, military spending data for all other countries came from the World Bank. For 1816–1985, it came from J. David Singer and Melvin Small, “National Material Capabilities Data, 1816–1985” [computer file] (Ann Arbor, MI: J. David Singer, University of Michigan; Detroit, MI: Melvin Small, Wayne State University [producers], 1990; and Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 1993), <https://www.icpsr.umich.edu/icpsrweb/landing.jsp>. For all countries except the United States, I interpolated 1986 and 1987 figures from the other sources. For more detail, see Wiley, “Technical Notes for ‘Why the Next Global Crisis . . .’”

**The scholars listed in the subheader have all published:** Fabrizio Balassone, Maura Francese, and Angelo Pace, “Public Debt and Economic Growth in Italy,” paper presented at the conference “Italy and the World Economy, 1861–2011” (Banca d’Italia, Rome, October 12–15, 2011); Anja Baum, Cristina Checherita-Westphal, and Philipp Rother, “Debt and Growth: New Evidence for the Euro Area,” European Central Bank Working Paper Series 1450 (2012); Stephen G. Cecchetti, M. S. Mohanty, and Fabrizio Zampolli, “The Real Effects of Debt,” BIS Working Paper 352 (2011); Cristina Checherita and Philipp Rother, “The Impact of High and Growing Government Debt on Economic Growth: An Empirical Investigation for the Euro Area,” European Central Bank Working Paper Series 1237 (2010); Manmohan S. Kumar and Jaejoon Woo, “Public Debt and Growth,” IMF Working Paper 10/174 (2010); and Carmen M. Reinhart, Vincent R. Reinhart, Kenneth S. Rogoff, “Public Debt Overhangs: Advanced Economy Episodes Since 1800,” *Journal of Economic Perspectives* 26 no. 3 (2012): 69–86.

**See my article “Revisiting the Reinhart–Rogoff Kerfuffle and the . . .”:** This is the first half of an article that was published by the Center for Independent Studies as F. F. Wiley, “The Consequences of High Government Debt: Reinhart and Rogoff versus the Pundits,” *POLICY Magazine* 29 no. 4 (2013–14): 31–44. It’s also available on <http://www.cyniconomics.com/2014/02/19/revisiting-reinhart-rogoff-govt-debt-part-1/>.

**Or, it can appear alongside fiscal restraint and help resolve the problem:** In addition to fiscal restraint, inflation also needs to be accompanied by a degree of financial repression before it contributes meaningfully to debt reduction. Otherwise, debt funding costs are likely to rise alongside inflation and counteract changes in the denominator of the debt-to-GDP ratio with offsetting changes in the numerator. See, for example, Carmen M. Reinhart and M. Belen Sbrancia, “The Liquidation of Government Debt,” *Economic Policy* 30 issue 82 (2015): 291–333.

**William Poole called on “journalists, commentators, and policy makers”:** William Poole, “A Primer for Understanding Obama’s Budget,” the *Wall Street Journal* online, April 8, 2013, <http://www.wsj.com/articles/SB10001424127887323646604578405132295403060>.

**He said that anyone who doesn’t take his advice is “complicit . . .”:** Ibid.

**“For 50 years or so the federal government has deliberately . . .”:** Ibid.

**It even mentions risks posed by epidemics, nuclear meltdowns:** See, for example, CBO, “The 2012 Long-Term Budget Outlook,” June 2012, 26.

**when it was finally tweaked to add a recession allowance:** See CBO, “The 2013 Long-term Budget Outlook,” September 2013, 18, which explains why the CBO lifted its long-term unemployment rate projections above its assumptions for the “natural” unemployment rate. At the same time, the CBO also lowered its long-term GDP projections below its estimates for “potential” GDP.

**I had previously published articles recommending such:** See, for example, F. F. Wiley, “Word Matching the ‘Deadly Sins’: #2” and Wiley, “The Chart that Every Taxpayer Deserves to See,” *Cyniconomics* (blog), August 28, 2013, <http://www.cyniconomics.com/2013/08/28/the-chart-that-every-taxpayer-deserves-to-see/>.

**I took full credit for the CBO’s allowance:** Wiley, “Why the CBO’s ‘Mr. Smith’ Has More Work to Do,” *Cyniconomics* (blog), February 13, 2014, <http://www.cyniconomics.com/2014/02/13/why-the-cbos-mr-smith-has-more-work-to-do/>.

**It only lifts the long-term unemployment rate to 4.9%:** See CBO, “The Budget and Economic Outlook: 2017 to 2027,” January 2017, 59, and the corresponding “Data Underlying Figures” spreadsheet.

**Mr. Smith assumes a combination of slightly above-normal growth:** Ibid.

**although he did make an adjustment for the first time in 2016:** Ibid.

**I had also published earlier articles drawing attention to:** See, for example, Wiley, “Why The CBO’s ‘Mr. Smith’ Has More Work To Do.”

**Table 19.2:** I calculated the first three adjustments from the sensitivity analysis shown in CBO, “The Budget and Economic Outlook: 2017 to 2027,” 32–33. For the fourth adjustment, source documents include Timothy Curry and Lynn Shabut, “The Cost of the Savings and Loan Crisis: Truth and Consequences,” *FDIC Banking Review* 13 no. 2 (2000): 26–35; *2010 Financial Report of the United States Government* (Washington, DC: US Department of the Treasury, 2011), vii; CBO, “H.R. 5140: Economic Stimulus Act of 2008,” Congressional Budget Office Cost Estimate, February 11, 2008; CBO, “H.R. 3890: Job Creation and Worker Assistance Act of 2002,” Congressional Budget Office Pay-as-you-go Cost Estimate, May 3, 2002; and CBO, “Summary of the Estimated Cost of the Conference Agreement for H.R. 1, the American Recovery and Reinvestment Act of 2009,” February 13, 2009. For the fifth adjustment, source documents include CBO, “Supplemental Appropriations in the 1980s,” CBO Publication 512, February 1990; CBO, “Supplemental Appropriations in the 1990s,” March 2001; and CBO, “CBO Data on Supplemental Budget Authority for the 2000’s.” I also checked the results against Thomas L. Hungerford, “Supplemental Appropriations: Trends and Budgetary Impacts Since 1981,” Congressional Research Service Report RL33134, January 2, 2009, [http://assets.opencrs.com/rpts/RL33134\\_20090102.pdf](http://assets.opencrs.com/rpts/RL33134_20090102.pdf) (Wikileaks Document Release, <http://wikileaks.org/wiki/CRS-RL33134>, February 2, 2009). For the methodology used in both the fourth and fifth adjustments, see F. F. Wiley, “Word Matching the ‘Deadly Sins’: #2.” For the sixth adjustment, I calculated the average unemployment rates for each of the nine years following the unemployment rate troughs corresponding to the last ten business cycle peaks, although treating the double-dip recession in 1980 and 1981–82 as part of a single cycle. I used that data to calculate the median increases in the unemployment rate from the ten troughs to the nine years that followed each trough. I then used that median path to set the unemployment rates for 2019–2027, by adding the results to the CBO’s projected unemployment rate trough of 4.4% in 2018. I then calculated employment “gaps” by subtracting the CBO’s “natural” unemployment rates from my projected unemployment rates. For 2019–2027, I calculated the budgetary effects of my employment projections using the CBO’s estimated connection from employment gaps to budget slippage (see the CBO’s January 2016 report, “The Budget and Economic Outlook: 2016 to 2026,” 124–25), assuming a linear relationship. Note that the CBO’s research shows the relationship to be nearly linear historically (based on the data on the pages I just cited), and it’s surely even more linear for the CBO’s projections from 2021 onward, which mechanistically link output and employment gaps.

**in January 2017, for example, the CBO published a spreadsheet:** See the “Long-Term Budget Projections” spreadsheet that corresponds with CBO, “The Budget and Economic Outlook: 2017 to 2027,” and is available at the same place on the CBO’s website.

**Congress and the White House use “convoluted” accounting to “obfuscate, . . .”:** Poole, “A Primer for Understanding Obama’s Budget.”

**I still remember watching the “Richie Fights Back” episode:** Garry K. Marshall and Arthur

Silver, “Richie Fights Back,” *Happy Days*, season 3, episode 6, directed by Jerry Paris, ABC, aired October 14, 1975.

**The Bank for International Settlements compiled:** See the spreadsheet attached to Bank for International Settlements, “Long Series on Total Credit and Domestic Bank Credit to the Private Nonfinancial Sector,” [https://www.bis.org/statistics/totcredit/credpriv\\_doc.pdf](https://www.bis.org/statistics/totcredit/credpriv_doc.pdf).

**If you read that book, you saw that:** Paul Krugman, *End This Depression Now!* (New York: Norton, 2012), 142.

**But then he jumped from debt stabilization:** *Ibid.*, 142–43.

**“That may sound like a big number, but . . .”:** *Ibid.*

**For example, Keynesians Larry Summers and Brad DeLong offer:** J. Bradford DeLong and Lawrence H. Summers, “Fiscal Policy in a Depressed Economy,” *Brookings Papers on Economic Activity* (Spring 2012): 233–74.

**Their data support several of my key assertions:** Carmen M. Reinhart and Kenneth S. Rogoff, *This Time is Different: Eight Centuries of Financial Folly* (Princeton, NJ: Princeton University Press, 2009).

**“One of those choices has depended . . .”:** Diamond, *Collapse*, 522.

**“The other crucial choice illuminated . . .”:** *Ibid.*, 523.

## Interlude

**“At the very moment that our Political Economy is objected to . . .”:** Walter Bagehot, *The Postulates of English Political Economy*, in *Economic Studies*, ed. Richard Holt Hutton (London: Longmans, Green, 1911 [1880]), 20.

**“It seems doubtful whether anyone spends his time well . . .”:** Alfred Marshall, *Principles of Economics* (London: MacMillan, 1890), xi.

**“Too large a proportion of recent ‘mathematical’ economics . . .”:** Keynes, *General Theory*, 298.

**“Herein lies the secret of the General Theory. . .”:** Paul A. Samuelson, “Lord Keynes and The General Theory,” *Econometrica* 14 no. 3 (1946): 190.

**and self-described “equilibrium theorist.”:** Samuelson, “What Classical and Neoclassical Monetary Theory Really Was,” *Canadian Journal of Economics* 1 no. 1 (1968): 12.

**It would belong instead to the “realm of genuine history.”:** *Ibid.*

**Samuelson declared that Marshall’s disdain for:** Paul Anthony Samuelson, *Foundations of Economic Analysis* (Cambridge, MA: Harvard University Press, 1963), 6.

**“It seems to me that this failure of the economists . . .”:** Friedrich August von Hayek, “Prize Lecture: The Pretence of Knowledge,” December 11, 1974, Nobelprize.org.

**“We get experts on everything that sound like . . .”:** Richard Feynman, “The Pleasure of Finding Things Out,” interview by *Horizon* production team, *Horizon*, BBC, 1981.

**“I rather shy away from discussions of Methodology with . . .”:** Paul A. Samuelson, “My Life Philosophy: Policy Credos and Working Ways,” in *Eminent Economists: Their Life Philosophies*, ed. Michael Szenberg (New York: Cambridge University Press, 1992), 240.

## CHAPTER 20

### Soldiers and Zealots

**“I think I’ve been in the top five percent . . .”:** Charles T. Munger, “The Psychology of Human Misjudgment,” in *Poor Charlie’s Almanack*, 450.

**Salomon Brothers hired Merton:** Justin Fox, *The Myth of the Rational Market: A History of Risk, Reward, and Delusion on Wall Street* (New York: Harper Business, 2009), 225.

**Goldman Sachs hired Fisher Black:** *Ibid.*, 224.

**“Measure theory is concerned with generalizing the notions . . .”:** Gaurav Chandalia, “A Gentle Introduction to Measure Theory,” <http://webbuild.knu.ac.kr/~trj/Analysis/Chandalia.pdf> (accessed October 12, 2012).

**First, his very definition of economics:** Dani Rodrik, *Economics Rules: The Rights and Wrongs of the Dismal Science* (New York: Norton, 2015), 213.

**Second, Rodrik argues that the collection:** Ibid., 66–72.

**He remembers wavering between economics:** Ibid., 30.

**“Looking at them side by side, . . .”:** Ibid., 30–31.

**Here are three of the key conclusions of the twenty-five economists, financiers:** “About INET – Timeline,” Institute for New Economic Thinking, <http://ineteconomics.org/about/timeline> (accessed October 12, 2012).

**Another group reached a similar verdict:** The Dahlem report was published in several places, including David Colander, Hans Föllmer, Armin Haas, Michael Goldberg, Katarina Juselius, Alan Kirman, Thomas Lux, and Brigitte Sloth, “The Financial Crisis and the Systemic Failure of Academic Economics,” Kiel Working Paper 1489 (February 2009).

**“Much of economics is so far removed . . .”:** Robert W. Clower, “The State of Economics: Hopeless but not Serious?” in *The Spread of Economic Ideas*, ed. David C. Colander and A. W. Coats (New York: Cambridge University Press, 1989), 23.

**“Practical men, who believe themselves . . .”:** Keynes, *General Theory*, 383.

**“I believe myself to be writing a book . . .”:** Skidelsky, *John Maynard Keynes*, 2:522.

**“It often happens that the universal belief . . .”:** Mill, *Principles of Political Economy*, 3.

**“the crude fantasies of childhood, . . .”:** Ibid.



# — ACKNOWLEDGMENTS —

Forthcoming.

