

Preface

A foolish faith in authority is the worst enemy of truth.

—Albert Einstein, letter to a friend, 1901

Many books have been written about the Great Recession, precipitated by the financial crisis beginning in 2007 with the breaking of the real estate price bubble.¹ Many explanations have been proposed. In a sense, I agree with them all, since they consist of descriptions of what actually happened.² Being descriptions of fact, they need not be viewed as competing. What distinguishes among them is who gets blamed. Just about everyone has been blamed (scapegoated?), including Wall Street firms, bankers, the economics profession, trial attorneys, the medical profession, insurance companies, the media, various governmental agencies, and Congress. What seems to be in common about those blamed is being among the smartest people in the country. Nearly everyone else has also been blamed, by inclusion of homeowners, Democrats, and Republicans. Only those blue collar Independents who are renters are

1. The stock market did not crash until 2008, when Lehman Brothers closed.

2. Examples include the astonishingly foresighted books by Shiller (2000, 2005). While I do not disagree with anything in those brilliant books, empirically distinguishing between nonlinear rational-expectations bubbles, nonlinear rational-expectations sunspots, nonlinear rational-expectations chaos, and behavioral-economics explanations are beyond the state of the art of econometrics, especially when the rational decision makers have limited information or are subject to learning, as in state-of-the-art rational-expectations models. For example, no analytical approach yet exists for locating the boundaries of the chaotic subset of the parameter space with a model having more than four parameters. To make matters worse, chaos violates the regularity assumptions of all available sampling-theoretic approaches to statistical inference, since chaos produces a nondifferentiable likelihood function, having an infinite number of singularities. Economic “sunspots” produce even more difficult problems, since the underlying theory assumes incomplete contingent-claims markets. Regarding rational-expectations bubbles, the critically important transversality conditions are notoriously difficult to test.

innocent. But as I argue in this book, all of those explanations are inadequate, if treated as “cause.” While there is plenty of blame to spread around, something deeper has happened and needs to be understood to recognize the real source.

As an indication of the problems with the usual explanations, consider the following. It has become common to blame “greed.” To my knowledge, the word “greed” has never appeared in a peer-reviewed economics journal. No definition exists within the economics profession, which assumes people do the best they can to pursue their self-interests. How can anyone do better than best? While psychologists, anthropologists, and sociologists may have a rigorous way to define and use that word, economists do not. For example, see Tett (2009) for a social anthropologist’s view of greed and its role in the crisis. That point of view usually emphasizes misleading or deceptive behavior. In economic game theory, misleading or deceptive behavior is not necessarily considered to be irrational, but rather a problem for the mathematical literature on “mechanism design,” the topic of chapter 3’s section 3.7. In media discussions of the financial crisis and the Great Recession, greed is often closely connected with, and sometimes synonymous with, fraud. In economics, fraud is indeed relevant to the fields of law and economics, mechanism design, and institutionalism. But in economic theory, it is hard to see why only fraud should be labeled as “greed,” and other crimes not. What about jewel and art thieves and hit men? Are they not “greedy”?

As an economist, I share the usual view of my profession: accusing someone of “greed” is a form of name calling, rather than an adequate explanation of cause. Inadequate regulation is also commonly blamed. Indeed, the weak response of the Federal Reserve (“the Fed”) was puzzling, while some banks were sending email messages to random people, including dead people, offering them loans.³ More effective regulation would have been very helpful to moderate the excesses that grew to ludicrous levels prior to the financial crisis. Certainly there is a colloquial sense in which some sort of “greed” was evident during those years.

But what about the 1920s? Leverage on Wall Street increased to 35:1 prior to the recent Great Recession, but never previously had exceeded 30:1 in US history. Since leverage was lower during the 1920s for many

3. For example, my mother, who had died years before and never owned a home, received a mortgage loan offer in a letter sent to my address.

Wall Street firms, some financial firms survived the Great Depression of the 1930s but did not survive the recent financial crisis.⁴ Why was leverage lower in the 1920s? Far less regulation existed during the 1920s than prior to the Great Recession, margin requirements were much lower than now, and the “unit investment trusts” of the 1920s were no less capable of facilitating and masking high leverage than the more recent credit default swaps. As explained by Galbraith (1961, p. 52), “The virtue of the investment trust was that it brought about an almost complete divorce of the volume of corporate securities outstanding from the volume of corporate assets in existence. The former could be twice, thrice, or any multiple of the latter.” With very low margin requirements, availability of unit investment trusts, and very little regulation, financial firms easily could have matched or exceeded the more recent 35:1 leverage. Were people less “greedy” in the 1920s? That would be a very hard case to make. The common explanations say little more than that people recently made unwise decisions because they did. Certainly something is missing.

4. The most widely discussed example is Bear Stearns, which was founded in 1923 and survived the Great Depression. See, for example, *Fortune* magazine, March 10, 2008 online at http://money.cnn.com/2008/03/28/magazines/fortune/boyd_bear.fortune/, by Roddy Boyd. Also see The Wall Street Journal’s *Market Watch*, by Alistair Barr, March 13, 2009 online at <http://www.marketwatch.com/story/post-bear-stearns-a-chastened-wall>, which includes the statement: “In early 2007, Bear Stearns was hooked at record-high levels, sporting a so-called leverage ratio of 35 to 1. For every \$1 in equity, it borrowed about \$35 to hold a wide array of assets. Around the same time, Goldman, Morgan Stanley, Merrill, and Lehman together averaged leverage ratios of 30 to 1, up from 20 to 1 in 2003, according to Bernstein research.” Leverage data were made available to the public in the Form 10-K and 10-Q report filings of the Security and Exchange Commission’s (SEC) Consolidated Supervised Entity (CSE) Holding Companies and from General Accountability Office (GAO) leverage statistics.

In *The New York Times*, October 3, 2008, page A1 of the New York Edition, Stephen Labaton imputed the increase in leverage to a 2004 change in rules by the SEC. But why did the SEC change its rules? Perhaps was the SEC convinced that there had been a change in systemic risk, so that increased leverage had become prudent? But in the Wikipedia, you can find the following statement, “financial reports filed by the same companies before 2004 show higher reported leverage ratios for four of the five firms in years before 2004.” See http://en.wikipedia.org/wiki/Net_capital_rule#cite_note-7.

Of course, there were no SEC regulations at all during 1920s leading up to the Great Depression, since the SEC was created in 1934. Similarly Lehman Brothers survived the Great Depression. Lehman Brothers was founded as a commodity house in 1850 and entered the underwriting business in a big way in 1906. Merrill Lynch was founded in 1915 and survived the Depression. Goldman Sachs was founded in 1869. One of its closed-end funds, which resembled a Ponzi scheme, failed during the 1929 stock market crash, but Goldman Sachs survived and prospered. Morgan Stanley is a “younger” firm, which was founded during the depths of the Depression.

Although I began as a rocket scientist (a real one), I was subsequently on the economics staff of the elite Special Studies Section of the Board of Governors of the Federal Reserve System in Washington, DC, during the chairmanships of Arthur Burns, William Miller, and Paul Volcker. Unfortunately, the Special Studies research section no longer exists.⁵ The kind of intellectual strength and credibility that the Fed had previously centered at that group in the Watergate Building has now been dispersed thinly throughout the Federal Reserve System.⁶

After Arthur Burns left the Federal Reserve Board, he moved to the American Enterprise Institute (AEI) in Washington, DC, to write his memoirs, with the assistance of his ghost writer. I was surprised to receive a phone call from Burns at my Federal Reserve Board office. He asked me to have lunch with him at the AEI. I had never personally met

5. Its successor at the Federal Reserve Board in Washington, DC, is the Monetary and Financial Studies (MFS) section. But MFS is not what the Special Studies Section once was, when it was located in the Watergate Building. In fact the Special Studies Section itself was no longer what it once was, when it lost its two miles of distance from the Board Building. That happened when the Martin Building's construction was completed next door to the Board Building, and the economists in the leased Watergate Building space were moved to the Martin Building. The departure of Special Studies economists for academe began soon after that move.

6. Whether the existence of an elite research section, highly visible to the profession, is warranted at public expense in Washington, DC, is debatable, and resentment toward that section by other Federal Reserve economists had much to do with why that section was terminated a few years after it was moved to the Martin Building. But the fact that the Special Studies Section was unique in Washington, DC, government is not debatable.

While I was employed at the Board, I was invited by Arnold Zellner at the University of Chicago to edit a special issue of the *Journal of Econometrics* on the subject of Federal Reserve research. Arnold was an editor and founder of that highly regarded professional journal. I then sent a memorandum inviting submissions from economists in all research sections within the Federal Reserve Board staff and throughout all of the system's regional banks nationwide. Most of the submissions were immediately withdrawn, when I revealed I was going to send the papers out for peer review relative to the journal's normal standards. The exceptions were almost exclusively from within the Special Studies Section and its sister section, Econometrics and Computer Applications (E&CA), which also no longer exists.

At present, long after the termination of the Special Studies Section, Federal Reserve economists' publications in academic journals are thinly spread over all parts of the Federal Reserve System. Many of the associate editors of the Cambridge University Press journal, *Macroeconomic Dynamics*, of which I am founder and editor, are Federal Reserve economists. All of the journal's Federal Reserve associate editors are presently at regional banks, most heavily concentrated at the New York and Chicago Federal Reserve Banks. The journal's advisory editors have only once recommended to me an economist at the Federal Reserve Board for including on the journal's editorial board. She served successfully as an associate editor at the Federal Reserve Board for a few years, but resigned from the Federal Reserve Board staff for a professorship at George Washington University in Washington, DC.

him, while he was the chairman at the Fed. Of course, I agreed to have lunch with him and met him at the AEI. First his ghost writer walked into the room alone. I asked the ghost writer why, during Burns's chairmanship, the rate of growth of the money supply had kept increasing until Burns's second successor, Paul Volcker, stepped in to stop the consequent escalating inflation. Since the days of David Hume (1711–1776), the relationship between money growth and inflation has been well known.⁷ Certainly Burns had been aware of the accelerating money growth rate, since the Fed maintained data on an astonishing number of monetary aggregates during his chairmanship. The ghost writer told me it was not Burns's fault, since Burns had to compromise with Congress to retain the independence of the Federal Reserve.

Then Burns walked into the room, and his ghost writer left. Burns told me that he had learned about my work on producing monetary aggregates based on aggregation and index-number theory, and he agreed with me. Encouraged by his favorable comment on my work, I then asked him the same question I had asked his ghost writer. Burns told me to ignore what his ghost writer had said. Burns said he had intentionally been pumping up the money supply to try to lower the unemployment rate, which was growing during the 1970s. He said that he had been educated in the economics of the depression and felt that keeping down unemployment was his primary obligation. He insisted that congressional pressure had nothing to do with it. In retrospect, he said he had been slower than other economists of his generation to recognize that the structural ("natural") rate of unemployment, which cannot be lowered by monetary policy, was rising. All that his accelerating money growth could do was to increase the inflation rate. I believed him to be telling me the truth, and he said something very similar in a speech in Belgrade, Yugoslavia.⁸

Burns's successor as chairman, William Miller, was inadequately qualified for the position and soon was replaced by Paul Volcker. Volcker recognized the source of the problem and instituted the "monetarist experiment" period, during which the rate of growth of the money supply was decreased to bring inflation back under control. But he overdid it, producing a recession. What has been going on since then is heavily documented in this book. In short, the early concept of money, computed by adding up imperfect substitutes, was rendered obsolete

7. David Hume, *Political Discourses*, "Of Money," 1752.

8. Arthur F. Burns, "The Anguish of Central Banking," the 1979 Per Jacobsson Lecture, Belgrade, Yugoslavia, September 30, 1979.

by payment of interest on various monetary assets, including checking accounts and checkable money-market deposit accounts. Those interest rates increased to high levels in the late 1970s. When monetary assets yielded no interest, computing monetary aggregates by adding up different kinds of monetary assets was consistent with the relevant economic aggregation theory. Once monetary assets began paying different interest rates, simple-sum monetary aggregation became obsolete, and more complicated formulas became valid. But most of the world's central banks did not fix their severely defective monetary aggregates. As a result monetary data became nearly useless to the public, to the financial industry, to the economics profession, and to the world's central banks. The whole world has recently been paying the price of this fundamental mistake by many of the world's central banks, most conspicuously the Federal Reserve Board in Washington, DC. Monetary data availability and quality from the Federal Reserve Board have been in a steady decline for decades. This book documents the resulting consequences and damage.

During Volcker's chairmanship, Alan Greenspan was on the semi-annual panel of advisors to the Federal Reserve Board. I witnessed first-hand the origins of the current economic dysfunctions. Contrary to popular opinion, the origins go back farther than usually believed—to the 1970s—and grew rapidly during the Great Moderation period (1987–2007) of unusually low economic volatility. Following eight years at the Federal Reserve Board, I resigned in December 1982 to accept a position that was too good to refuse: full professor of economics at the University of Texas at Austin, where I was Stuart Centennial Professor of Economics for the next eight years. An “exit interview” is customary upon resignation from the Federal Reserve. I received an exit threat.

A high-ranking Officer of the Board's Staff walked into my office and declared ominously that if I ever became known as a critic of the Fed, its attorneys would harass me for the rest of my life. Not viewing myself as a Fed critic, I viewed the threat as reflecting little more than the intellectual insecurity of that Officer and the weakened state of the Board's staff. Many of the best economists from the Special Studies Section already had left for academic positions. The “exit threat” was unknown to the brilliant Special Studies Section Chief (Peter Tinsley), for whom I worked, until I mentioned it to him 26 years later. He was distressed to learn about it. But maybe the high-ranking officer who delivered the threat was more prescient than I realized at the time. Perhaps he saw this book coming nearly thirty years in advance. I did not.

I have served as an advisor to the Federal Reserve Bank of St. Louis, as a consultant to the European Central Bank, and as an advisor to the Bank of England.⁹ Those roles along with my editorship of the Cambridge University Press journal, *Macroeconomic Dynamics*, my editorship of the monograph series, *International Symposia in Economic Theory and Econometrics*, and my own research and extensive publications have kept me close to the thinking of the economics profession's major players. This book uses basic principles of mainstream economic theory to explain what has happened and why. If the economics profession was in any way at fault, it was not from using too much economic theory. It was from using too little.

An objective of this book is to make my conclusions accessible to everyone, including those who have never taken an economics course. As a result the book is divided into two parts. Part I uses no mathematics and is written in a manner accessible to all readers, with the exception of the Foreword by Apostolos Serletis and the book's footnotes. The emphasis is on graphical displays and verbal explanations. But this book connects with a body of very mathematical research developed over a period of more than thirty years. Readers with the necessary level of mathematical preparation can find the underlying mathematics in part II, which serves as appendixes to the chapters in part I. Parts I and II say essentially the same thing, but part I with words and part II with math.¹⁰

Mathematics is a more rigorous language than English and is inherently important to the economics profession as a means of making clear the logic and internal consistency of analysis. The appendixes may not fully meet the needs of those professionals who might wish to cite the original source publications. Such experts can find the original journal articles collected together and published in three books: Barnett and Serletis (2000), Barnett and Binner (2004), and Barnett and Chauvet (2011b).

9. At the St. Louis Federal Reserve Bank, I was a member of the MSI Divisia Advisory Panel during the initial years of construction of that database. MSI stands for "monetary services index," as explained further in section 2.6.3 of chapter 2. My assistance to the European Central Bank included work I did at the bank in Frankfurt, publication of a working paper for the bank, and publication of a resulting journal article. My assistance to the Bank of England was limited to replying to faxed requests for advice about its Divisia monetary aggregates.

10. This division into two parts, one nonmathematical and one mathematical, is unusual in recent economics books. But it is consistent with an earlier tradition, made particularly famous by John Hicks's (1946) classic book, *Value and Capital*.

An unavoidable amount of professional jargon is necessary to make clear the connection between parts I and II. While I am keeping such jargon to a minimum, I define all such words and terms as they are introduced in part I. Exceptions are in some of the footnotes, which are provided for professional economists. Readers who are occasionally distracted by technical terminology can simply skip over such words and phrases. The book is written in a manner that can make its point even to rapid readers who choose to skim over details. *In short, reading this book can be as casual and rapid or as challenging and deep as the reader may choose.*

You will not need to know any of the book's technical results to find previously unrevealed insights into Fed operations. For example, you will learn about a case in which the chairman of the Federal Reserve Board called in the FBI to investigate his entire Washington, DC, staff, including hundreds of economists, to track down the person who provided bank interest rate data to *Consumer Reports*, perhaps in accordance with the Freedom of Information Act. When the person was found, he was fired. Such chilling practices, whether or not justified, are relevant to controversies about the central bank's openness and transparency and to the nature of the Federal Reserve System's incentives, as seen by its employees. You also will learn how faulty monetary aggregate data led Chairman Volcker to overtighten during the period of the "monetarist experiment" in 1979 to 1982 and thereby to induce an unintended recession (chapter 3, section 3.2, table 3.1). You will learn how faulty monetary aggregates more recently led the Fed to be unaware it was fueling the bubbles preceding the financial crisis (chapter 4, section 4.3.1, figure 4.7) and then to be unaware its policy was turning the financial crisis into the Great Recession (chapter 4, section 4.3.3, figure 4.12).

"Fed watchers" routinely obsess about the federal-funds interest rate as an indicator of the stance of monetary policy. Throughout the Great Recession, the federal-funds rate remained stably nearly zero, implying negligible changes in policy for a long period of time. But during those years, Federal Reserve policy was the most volatile in its history (e.g., see figures 4.5, 4.9, and 4.12 of chapter 4), while the federal-funds rate hardly varied at all. As an indicator of Fed policy, the federal-funds rate, contrary to official pronouncements, was a nearly useless indicator of monetary policy. From this book you will learn about the right places to look for policy indicators. The federal-funds rate is among the least important of them.

With growing complexity of financial instruments and institutions, a private-ownership economic system needs increasingly extensive, best-practice information from the central bank. Without such information availability, the second-best alternative is dramatically expanded and costly regulation to constrain poorly informed private decisions. *Increasing financial complexity with decreasing data quality is a toxic mix.*

As in mainstream economic theory, I assume throughout this book that people are rational and do the best they can to pursue their self-interests¹¹—*conditionally upon the information that is available to them. “Ay, there’s the rub.”* (Shakespeare’s *Hamlet*)

11. The concept of rationality used in economics is weaker than in common usage. To an economist, a person is considered to be “rational,” if she does not intentionally act in a manner inconsistent with her own preferences, with full knowledge that the outcome of the decision will be inconsistent with her preferences. Economists are not judgmental about what a person’s preferences should be.