The Money Illusion

Market Monetarism, the Great Recession, and the Future of Monetary Policy

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Preface

During the 1930s, 1940s, and 1950s, most economists believed that the Great Depression had been caused by financial distress and that monetary policy had been expansionary but largely ineffective. In the 1960s, research by Milton Friedman and Anna Schwartz convinced the profession that monetary policy during the early 1930s had actually been contractionary, and that this had been a major cause of both the Depression and the banking crisis. Further research (including some of my own) established that the monetary failure had been global in nature and linked to flaws in the international gold standard.

When the Great Recession of 2008–2009 hit the global economy, I immediately noticed that many pundits were once again misdiagnosing the crisis, in ways eerily similar to the original (mistaken) view of the Great Depression. By this time, I had already spent several decades studying and teaching monetary economics. My research had focused on a number of topics with particular relevance to understanding the ongoing crisis, including the Great Depression, the Japanese liquidity trap of the late 1990s, and various proposals for reforming monetary policy. This gave me a unique vantage point in terms of seeing what others had missed.

In some respects, I was an unlikely contrarian, as before 2008, my views were not out of the mainstream. Indeed, for nearly a quarter century I had been reasonably satisfied with Federal Reserve policy. After Lehman Brothers failed, however, I realized that monetary policy had suddenly become much too tight, and I began trying to convince my fellow economists of the need for a much more expansionary policy. More importantly, I tried to show that the conventional wisdom was wrong. It wasn't just that policy had drifted off course in 2008—economists as a profession were thinking about the entire issue in the wrong way.

In early 2009, these convictions pushed me to start a blog called *TheMoneyIllusion*—a move that ended up reshaping my career. By 2010, I and several bloggers who shared a similar outlook had coalesced into a school of thought dubbed *market monetarism*, which focused on the need to provide stable growth in nominal gross domestic product. These writers included David Beckworth, Nick Rowe, David Glasner, Marcus Nunes, and Lars Christensen, among others. The mainstream media started paying more attention to our ideas, and people I met began asking me to recommend books with market-monetarist ideas. Unfortunately, I wasn't able to cite a book that provided the sort of comprehensive treatment of market monetarism that Friedman and Schwartz had provided for the earlier versions of monetarism.

One can think of Friedman and Schwartz's *A Monetary History of the United States* as a treatise on monetarist ideas, a revisionist explanation of the Great Depression, and a rationale for monetarist policy recommendations, all in one big book. In this book, *The Money Illusion*, I intend to provide a treatise on market-monetarist ideas, a revisionist explanation of the Great Recession, and a defense of market-monetarist policy recommendations.

Lots of people have contrarian views about current events. So why should you read this alternative account of the Great Recession? The best answer I can give is to point to the surprising number of instances when recent events played out in a way that supports market monetarism. Here are just a few:

- When I complained in late 2008 that money was too tight, almost no one else was making that claim. Today that view is widely held, and even former chair of the Federal Reserve Ben Bernanke admitted (in his memoir) that the Fed erred in not cutting rates after Lehman Brothers failed.
- When I suggested in early 2009 that Fed policy could be much more expansionary, most observers were skeptical. When the Fed eventually tried unconventional stimulus such as quantitative easing (even if this response was still inadequate), the United States performed much better than the eurozone, which did not try such policies until much later.
- When I proposed that banks adopt negative interest rates for bank reserves in January 2009, the idea was widely viewed as impractical. Today, many important central banks have adopted negative interest rates on bank reserves.
- After I suggested in late 2012 that "monetary offset" would prevent fiscal austerity in the US from having the contractionary impact that was widely

predicted, prominent economists dismissed my argument. My view, though, turned out to be correct: growth picked up in 2013. The consensus view was wrong.

- In early 2009, I advocated *nominal-GDP-level targeting*. In subsequent years, many of the top macroeconomists in America endorsed this policy. Christina Romer, who had been head of the Council of Economic Advisers under President Obama, cited my research as providing the "logic" behind nominal GDP targeting in her *New York Times* piece endorsing the concept.[1]
- An important component of market monetarism is the idea that Fed policy should be guided by market forecasts, not by the Fed's complex mathematical models of the economy. By 2019, it was clear that Fed policy is increasingly guided by market forecasts, because the Fed's internal models have proved unreliable.

These examples don't prove that market monetarists are right about everything. But surely the fact that so many of our claims have become increasingly accepted among respected macroeconomists is reason enough to take the ideas seriously. I hope this book provides readers with a better understanding both of what market monetarism is all about and of why we hold such unconventional views about what went wrong during the Great Recession.

This book has two primary goals. One goal is to provide an explanation of basic monetary theory and of the specific perspective called market monetarism. Fulfilling this goal occupies roughly the first half of the book, which includes some technical material at the level of undergraduate economics students. The second goal (addressed in the second half of this book) is to apply these ideas to the Great Recession, which provides an alternative narrative that I believe is superior to the conventional explanation. This narrative makes it easier to see what is distinctive about the market-monetarist approach.

This book is intended to be accessible to upper-level undergraduate economics students, graduate students, and interested readers with some knowledge of basic economic theory. However, this book doesn't just repackage and recycle existing theories—I present a number of new ideas and perspectives that I hope will also be of interest to professional economists.

INTRODUCTION

The Real Problem Was Nominal

"Tell me," the great twentieth-century philosopher Ludwig Wittgenstein once asked a friend, "why do people always say it was natural for man to assume that the sun went around the Earth rather than that the Earth was rotating?" His friend replied, "Well, obviously because it just looks as though the Sun is going around the Earth." Wittgenstein responded, "Well, what would it have looked like if it had looked as though the Earth was rotating?"
—Richard Dawkins, *The God Delusion*

Many readers of this book will have fairly vivid memories of the financial crisis that followed the failure of the Lehman Brothers investment bank and of the Great Recession that began in 2007. Liberals' and conservatives' interpretations of these events may differ in the details, such as which public policies they blame, but both sides share a common understanding of the basic trajectory of the crisis: The bursting of a major real-estate bubble helped trigger first a banking crisis and then a deep recession. Monetary policy was extraordinarily expansionary during the downturn and recovery, but it was largely ineffective at boosting the economy.[1]

In the next few pages, I present a radically different interpretation of the Great Recession. At first it may seem implausible, even preposterous. Yet this radical view is based almost entirely on standard macroeconomic concepts, as they were understood back in 2007. It is the mainstream of the profession, which abandoned this standard model, that needs to justify its new view of macroeconomics.

Unfortunately, few noneconomists are aware of the state of macroeconomic theory circa 2007, so you may have to initially suspend your disbelief while you examine whether an alternative view of the past decade—*market monetarism*—makes more sense than the mainstream view. Market monetarism developed out of the crisis of 2008, but all of its

components are well-established economic principles—although the way we utilize them is novel in certain respects.

In a sense, this book maps my intellectual journey, illustrating how I arrived at my current views on monetary economics (which were well established by 2007). These views have always been heavily informed by both data and theory—one without the other leads nowhere. Thus, I toggle back and forth between the major empirical findings of monetary economics and the models used to make sense out of those findings. I hope it will become clear why I espouse market monetarism rather than one of the alternative approaches to macroeconomics, such as the Keynesian, Austrian, classical, or traditional monetarist schools of thought.

In the second half of the book we return to the crisis of 2008, armed with a broad understanding of monetary economics. At that point I'll ask you a question similar to Ludwig Wittgenstein's famous query (recounted in the epigraph): what might we expect the crisis to have looked like if the market-monetarist view of reality is correct?

As with the solar system, the simplest and most coherent model of the Great Recession is highly counterintuitive—and not at all what many observers thought they saw happening in 2008.

The Conventional View

Here is how Stanford economist Robert Hall started off a survey article in the fall 2010 issue of *Journal of Economic Perspectives*: "The worst financial crisis in the history of the United States and many other countries started in 1929. The Great Depression followed. The second-worst struck in the fall of 2008 and the Great Recession followed."[2]

Although Hall is one of my favorite macroeconomists, I believe he's wrong in this case—and wrong in a very revealing way. There was no significant financial crisis in the United States during 1929. The major financial crisis of the Great Depression occurred in 1931.[3] Now, why is this timeline so important? Because Hall's description makes it seem as if the financial crisis in 1929 triggered the Great Depression, whereas what actually occurred was that the Great Depression led to a severe financial crisis. Debts are harder to repay when national income is falling rapidly because income provides the funds that people and businesses use to repay debts.

I argue that something quite similar occurred in 2008. Admittedly, the 2008 case is more complicated than that of the Great Depression. Whereas

the financial system was in good shape in 1929, financial stresses were developing well before the 2008 recession because of problems with subprime loans. Even so, the specific financial crisis that Hall is referring to "in the fall of 2008" is the severe crisis post–Lehman failure that began in late September 2008 and intensified in October.

Why is the timing so important? Because the Great Recession began in December 2007 and became severe after June 2008. Just as in the 1930s, a slump in the economy triggered severe financial distress. In 2008, it transformed a modest banking crisis into a major financial crisis. Unfortunately, owing to lags in the collection of data on gross domestic product, at the time no one understood that the country was already in the midst of a severe recession when Lehman failed in September. It looked as though Lehman *caused* the severe recession because the truly horrifying GDP data came out later in 2008 and in early 2009.[4]

Real and Nominal GDP

The research firm Macroeconomic Advisers estimates monthly GDP data derived from the various data series that the US government uses to construct its quarterly GDP estimates. Figure I.1 shows what things looked like during the Great Recession: it clearly shows that the sharp drop in GDP occurred between June and December 2008. Keep that six-month period in the back of your mind, because I will continually refer back to it. Owing to quirks in the relationship between levels and rates of change, even a quarterly data series can be very misleading. For example, real GDP (RGDP) looks pretty level in the first three months of 2009, but quarterly RGDP actually shows a sharp decline from the fourth quarter, even though the *level* of GDP in the first quarter of 2009 was not much different from that of December 2008. That's because GDP during October and November 2008 was far higher than during December.

The bottom dropped out of the economy in the second half of 2008, although it wasn't known that this had happened until very late in the year. Lehman failed about halfway through this steep decline (in September 2008), triggering a major global banking crisis. By December most of the damage had been done: the Great Recession had begun, and the effects would linger for years.

I'm going to argue that the housing bubble and financial crisis did not cause the Great Recession. Rather, the direct cause of the recession was a fall in nominal GDP (NGDP), and the cause of the decline in NGDP

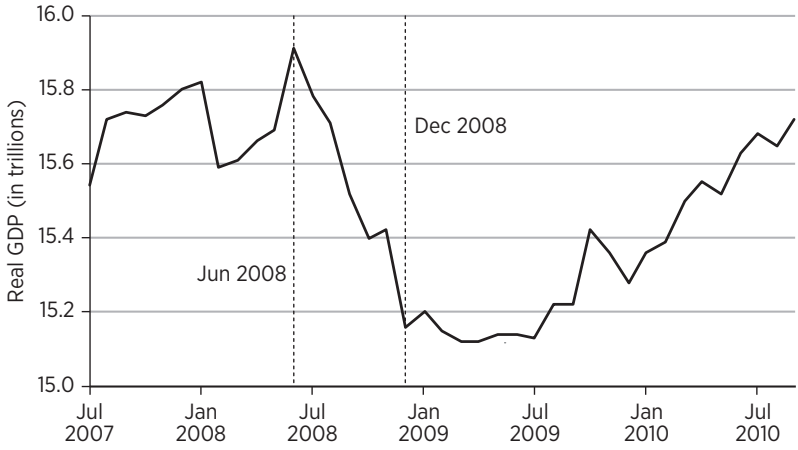

FIGURE I.1. US real GDP, Q3 2007 to Q3 2010

Source: Macroeconomic Advisers monthly real GDP data, https://ycharts.com/indicators/us_monthly_real_gdp.

was an excessively contractionary monetary policy. In a sense, the Federal Reserve was to blame, although it is probably more accurate to say that the entire economics profession was at fault, because economists were operating with a flawed model of monetary policy. The Fed rarely strays very far from the consensus view of elite macroeconomists.

Figure I.2 shows NGDP during the same period of time as is covered in figure I.1: notice the same steep decline in NGDP as in RGDP from June to December 2008. When I compare these two graphs during a lecture, I usually get several questions from the audience: "Isn't this pretty much a tautology?" "Real and nominal GDP are quite similar; obviously if one declines, then the other will as well, right?" "In what sense is a decline in NGDP a cause of a decline in RGDP?" "The real question is what caused them both to decline, isn't it?"

I sympathize with these questions, but they are based on a fundamental misunderstanding of the relationship between real and nominal variables. Although RGDP and NGDP may sound similar, they are radically different concepts, even at an ontological level. Even many economists don't grasp this, because economists are forced to use numbers to measure both aggregates and because RGDP includes many different types of objects. Thus, some sort of "index number" is required to make sense of the concept.

Nonetheless, real and nominal GDP are radically different. Nominal GDP is the total dollar value of all goods and services produced domestically in a given period of time. Real GDP is nominal GDP adjusted for changes in the price level, to factor out the effects of inflation. If you want to picture NGDP, you might visualize a huge pile of dollar bills: a monetary concept. If you want to picture RGDP, you might imagine thousands of factories, shopping malls, office buildings, and homes—and of course, millions of workers providing services.

Figure I.3 shows a Zimbabwe $100 trillion bill. Because of hyperinflation caused by the printing of many such bills, in 2008 Zimbabwe's NGDP soared higher at an astronomical rate. In contrast, Zimbabwe's RGDP is a physical concept; in 2008 its RGDP took the form of abandoned farms and shuttered factories, thanks to inept government policies that punished wealth creators. Real GDP plunged as Zimbabwe fell into depression while NGDP soared higher at the fastest rate in the world.

In the United States, RGDP and NGDP are more closely correlated. But even in the United States, NGDP growth rates soared to double-digit levels in the 1970s, even as RGDP growth was about 3%, lower than during the 1960s. There's no way around it: RGDP and NGDP are very different concepts.

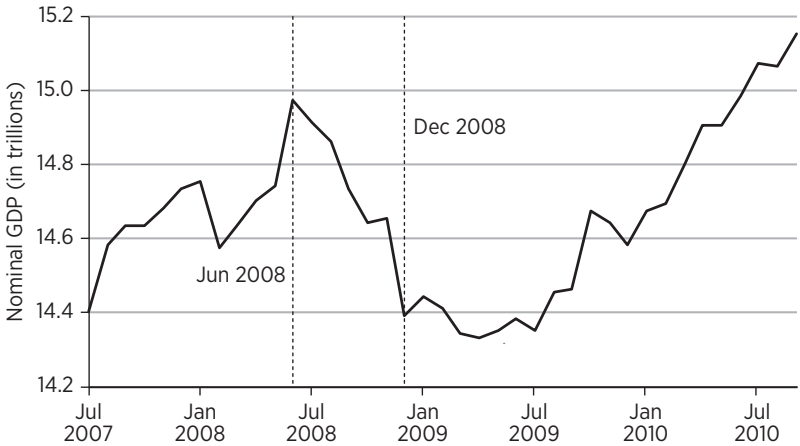

FIGURE I.2. US Nominal GDP, Q3 2007 to Q3 2010

Source: Macroeconomic Advisers monthly GDP data, https://ycharts.com/indicators/us_monthly_gdp.

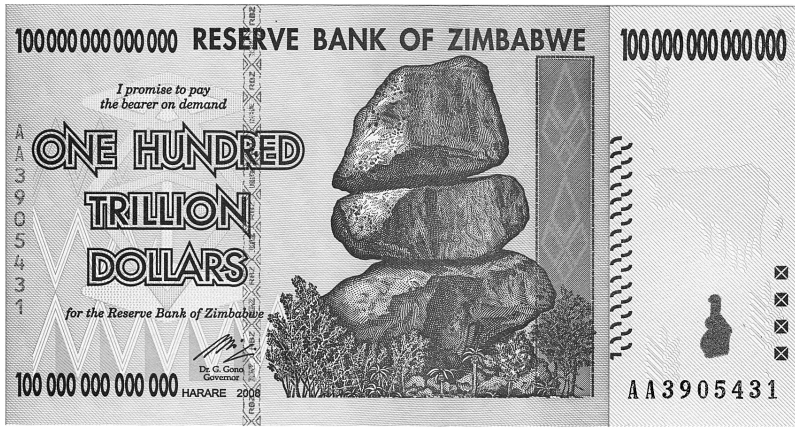

FIGURE 1.3. A Zimbabwe $100 trillion bill in 2008

And yet, over shorter periods of time, NGDP and RGDP are indeed highly correlated in the US, although not for the reasons many assume. One of the basic goals of this book, and in some respects the key to macroeconomics, is to understand why NGDP and RGDP are highly correlated in some cases and not at all correlated in others. When we finally figure this out, we'll see that a policy that prevented NGDP from falling in 2008 would most likely also have prevented RGDP from falling, or at least greatly moderated the decline. A mild recession might have been inevitable, but the slump that occurred was far deeper than necessary.

False Assumptions about the Stance of Monetary Policy

Let's say that the decline in NGDP was the proximate cause of the decline in RGDP (later I'll explain exactly how and why these variables are related in the short run). That still leaves open the question of how I can claim that the Fed is to blame for the Great Recession. After all, "everyone knows" that monetary policy was extremely expansionary during 2008. The Fed cut interest rates sharply, to near-zero levels by the end of the year. It also pumped lots of money into the economy. As we will see, however, what "everyone knows" just isn't so.

This is not the first time that economists have confused low interest rates with easy money. The same mistake was made during the 1930s. Not until the publication in the 1960s of the famous *A Monetary History of*

the United States by Milton Friedman and Anna Schwartz did economists come to realize that monetary policy was actually quite contractionary, or "tight," during the 1930s, despite near-zero interest rates. Today, even Ben Bernanke accepts Friedman and Schwartz's claim that the Fed was to blame for the Great Depression.

Unfortunately, many economists have continued to judge the stance of monetary policy by looking at interest rates. In December 1997, Friedman expressed dismay that many were forgetting the lessons of *Monetary History*. Interest rates in Japan had fallen to close to zero because of deflationary monetary policies, yet many pundits wrongly assumed that Japan had an easy money policy, despite a falling price level. Friedman wrote in the *Wall Street Journal*:

> Low interest rates are generally a sign that money has been tight, as in Japan; high interest rates, that money has been easy. . . .
>
> After the U.S. experience during the Great Depression, and after inflation and rising interest rates in the 1970s and disinflation and falling interest rates in the 1980s, I thought the fallacy of identifying tight money with high interest rates and easy money with low interest rates was dead. Apparently, old fallacies never die.[5]

Here Friedman is referring to the tendency of interest rates to follow inflation. A tight money policy produces low inflation, which leads to low interest rates, and easy money leads to high inflation, which leads to a high interest rate.[6]

Although Milton Friedman was perhaps the greatest monetary economist of the twentieth century, he was also a monetarist with some unconventional views. Maybe he was wrong about the policy stance in Japan; perhaps Japan did have easy money. But Friedman isn't the only economist to note that low interest rates don't mean easy money. Consider these three key lessons for students from the best-selling monetary policy textbook in 2007:

- "It is dangerous always to associate the easing or the tightening of monetary policy with a fall or a rise in short-term nominal interest rates."
- "Other asset prices besides those on short-term debt instruments contain important information about the stance of monetary policy because they are important elements in various monetary policy transmission mechanisms."
- "Monetary policy can be highly effective in reviving a weak economy even if short-term rates are already near zero."[7]

These points were written by Frederic Mishkin, a highly respected New Keynesian economist who served on the Federal Reserve Board with Ben Bernanke. As an academic, Bernanke also argued that monetary policy has an almost unlimited ability to stimulate the economy when interest rates are stuck at zero.[8]

I had been using Mishkin's textbook to teach for a quarter century before 2008. I believed these three ideas were extremely important, and I always emphasized them in class. Consider my surprise, then, when I looked around in late 2008 and found that few of my fellow economists believed in these assertions. Most economists seemed to think that low interest rates do represent easy money. Most economists also seemed to believe that monetary policy is *not* highly effective when interest rates are close to zero.

This discovery led me to devote my career to trying to change the conventional wisdom back to the ideas in Mishkin's textbook. In this book, I explain why I stuck with the textbook version of monetary economics in 2008 and not the view that caught on with most pundits—that monetary policy became ineffective after rates hit zero in December 2008, if not earlier. Mishkin was right when he claimed that monetary policy remains highly effective at near-zero interest rates.

How Did Asset Markets Move in Late 2008?

Recall that Mishkin claimed that the stance of monetary policy should be measured not by the level of interest rates buy by movements in other asset prices. So let's do that, focusing on the key six-month period in late 2008.

When I point out to other economists that nominal interest rates are not a good indicator of the stance of monetary policy, they often accept my claim but suggest that the real interest rate is a good indicator. So let's look at the real interest rates on five-year Treasury bonds from July to November 2008 (fig. I.4). The graph shows a stunning increase in real interest rates, especially for such a short period of time. Yet few of the economists I have talked to are even aware that real interest rates rose from less than 1% to more than 4% in the teeth of the financial crisis. Why would the Fed allow this to happen?

In fact, the economists who point to the real interest rate are wrong—it's not a good indicator of the stance of monetary policy, for the same basic reason that nominal interest rates are unreliable. Just as nominal

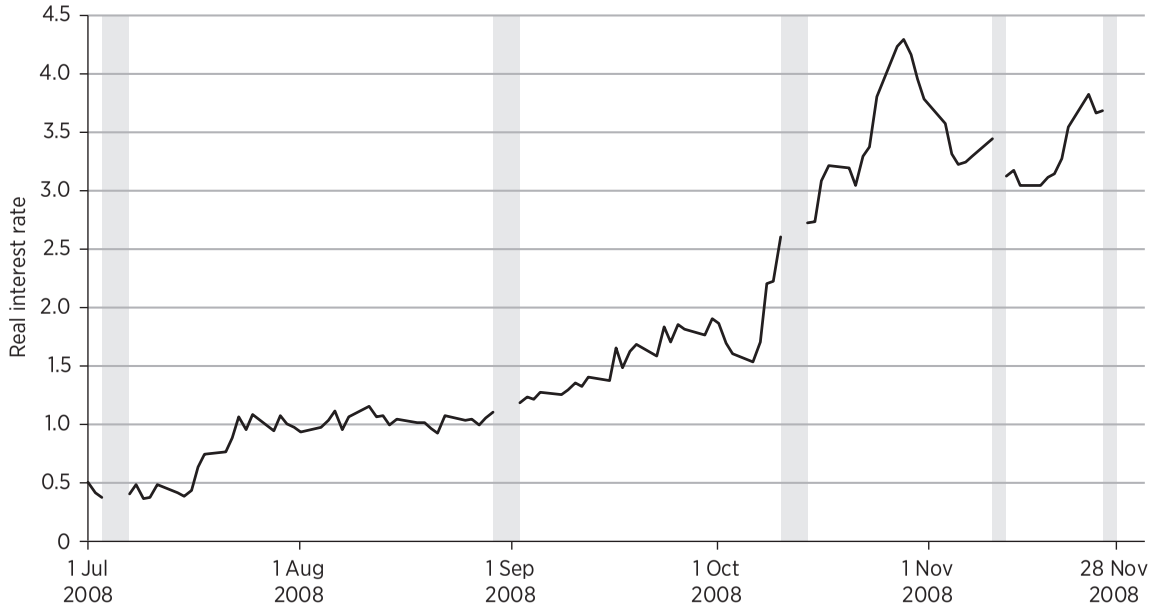

FIGURE 1.4. US real interest rates, July 2008 to November 2008

Note: Gray indicates trading days.

Source: FRED via Dow Jones & Company and Haver Analytics, https://fred.stlouisfed.org/series/DTP10J14.

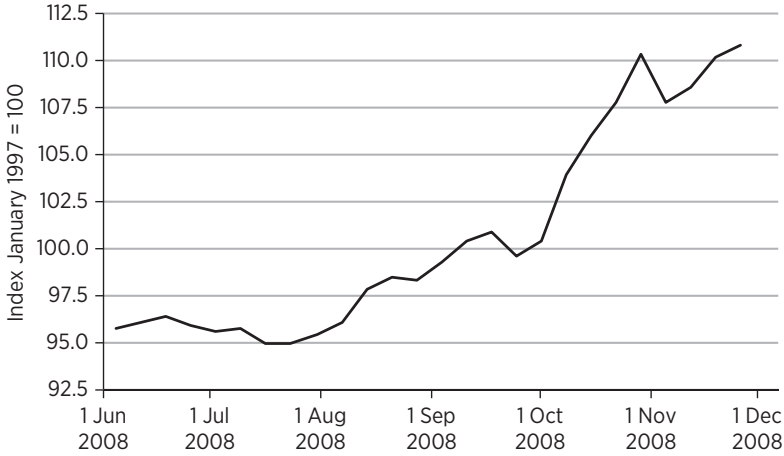

FIGURE I.5. US trade-weighted exchange index, June 2008 to November 2008

Source: FRED via Board of Governors of the Federal Reserve System (US), https://fred.stlouisfed.org/series/TWEXB.

interest rates can be distorted by changes in expected inflation, the real interest rate can be distorted by changes in real output. Ironically, many of the economists who say we should look at the real interest rate seem unaware that this indicator suggests that monetary policy was *highly contractionary* in late 2008.

Another popular asset price is the exchange rate, which measures the value of the dollar in terms of foreign currencies. Once again, it's not always a reliable indicator of the stance of monetary policy, but to the extent that it is useful, it was signaling extremely tight money in late 2008. Indeed, the foreign exchange value of the dollar soared by about 15% (in trade-weighted terms) in late 2008, as shown in figure I.5.

Interestingly, currencies almost always depreciate sharply during a severe financial crisis. Dozens of examples prove this, from Thailand to Mexico to Russia to Iceland. The rare examples when a currency appreciated during a financial crisis (e.g., the US in 1931–1932, Japan in the early 1990s, Argentina in 1998–2001) are cases that we now know involved excessively contractionary monetary policy.

Other asset markets showed the same pattern of sharp decline in late 2008:

- Stock prices crashed in late 2008.
- Commodity prices fell by more than 50% in late 2008.

- Commercial real-estate prices started falling sharply about the same time as NGDP, long after the subprime-lending bubble burst.
- Residential real estate prices in the heartland (e.g., Texas) had been stable during the 2006–2008 subprime crash and started falling in late 2008 along with NGDP.
- Spreads in Treasury Inflation-Protected Securities, or TIPS (i.e., inflation expectations in the bond market), fell sharply.

So if economists are to take seriously what we've been teaching our students for years, then it seems that all the "other asset prices" Mishkin referred to were flashing warning signs in 2008 that money was far too tight.

Of course, not everyone agrees with Mishkin's way of characterizing the stance of monetary policy. I prefer looking at NGDP growth, as does Ben Bernanke:

> The imperfect reliability of money growth as an indicator of monetary policy is unfortunate, because we don't really have anything satisfactory to replace it. As emphasized by Friedman . . . nominal interest rates are not good indicators of the stance of policy. . . . The real short-term interest rate . . . is also imperfect. . . .
>
> Ultimately, it appears, one can check to see if an economy has a stable monetary background only by looking at macroeconomic indicators such as nominal GDP growth and inflation.[9]

If we average out NGDP growth and inflation, we find that monetary policy during the period 2008–2013 was the tightest since Herbert Hoover was president at the onset of the Great Depression. And recall that Bernanke once argued that the Fed's tight money policies caused the Great Depression. Although the stance of monetary policy was extremely contractionary by the criteria Bernanke laid out in 2003, as Fed chair Bernanke suggested that policy was quite *accommodative* during the period 2009–2013.

A well-functioning economy requires NGDP to rise at a fairly steady rate, but not too fast. The Fed has all the tools required to make this happen. When NGDP performs poorly, it means that monetary policy is failing.

Didn't the Housing Bubble Cause the Great Recession?

If macroeconomic theory circa 2007 clearly points to tight money as the cause of the Great Recession, then why do so few economists believe it? One answer is that it didn't look as if tight money was to blame. Even

though most economists understand that low rates don't necessarily mean easy money, many don't incorporate the implications of this into their worldview. Instead, they tend to focus on the most visible manifestations of a tight money policy, such as falling asset prices and financial distress. To early humans it looked as if the sun went around the earth as they watched it rise and set—similarly, to most economists it looked as if the housing bust and the subsequent financial crisis caused the Great Recession.

Let's consider the housing "bubble." (I use scare quotes because later we'll see that bubbles are not a useful concept.) The standard view is that American home prices soared to irrational heights during the 2005–2006 housing bubble, so a later sharp decline was almost inevitable. But was it? After all, housing prices soared in many other countries at about the same time. Figure I.6 shows housing prices in six English-speaking countries. Notice that housing prices (in real terms) rose much higher in all six markets, and yet prices later fell sharply in only two of the markets: the US and Ireland. In the other four economies, housing prices moved sideways in real terms (and rose even higher in nominal terms).

Back in 2006, it was difficult to predict which, if any, of these six markets would experience sharp housing price declines. If you correctly predicted the bursting of the housing bubble, then you should consider that's probably because you happen to reside in the US or Ireland, where your prediction turned out to be accurate.

Even if the fall in US housing prices did not represent the bursting of a bubble, it obviously could have caused a recession. After all, there are lots of jobs in home construction and related industries. But did the housing slump actually cause a sharp rise in unemployment? The data suggest that the answer is no. Table I.1 shows how between January 2006 (when housing construction peaked) and April 2008, the US experienced a decline in home building by more than 50%. By the latter date, about 75% of the decline in home building had already occurred. And yet during that twenty-seven-month period, the unemployment rate merely edged up from 4.7% to 5.0% (which was still considered roughly "full employment").

The 2006–2008 period shows exactly how economies are supposed to work, at least in (classical) theory. An economy has a *production possibilities curve*, which shows the maximum possible output in a variety of industries. If more resources are used to produce one type of good, then fewer resources will be available to produce other types of goods. The opportunity cost of more housing, then, is less production of cars, computers, and restaurant meals.

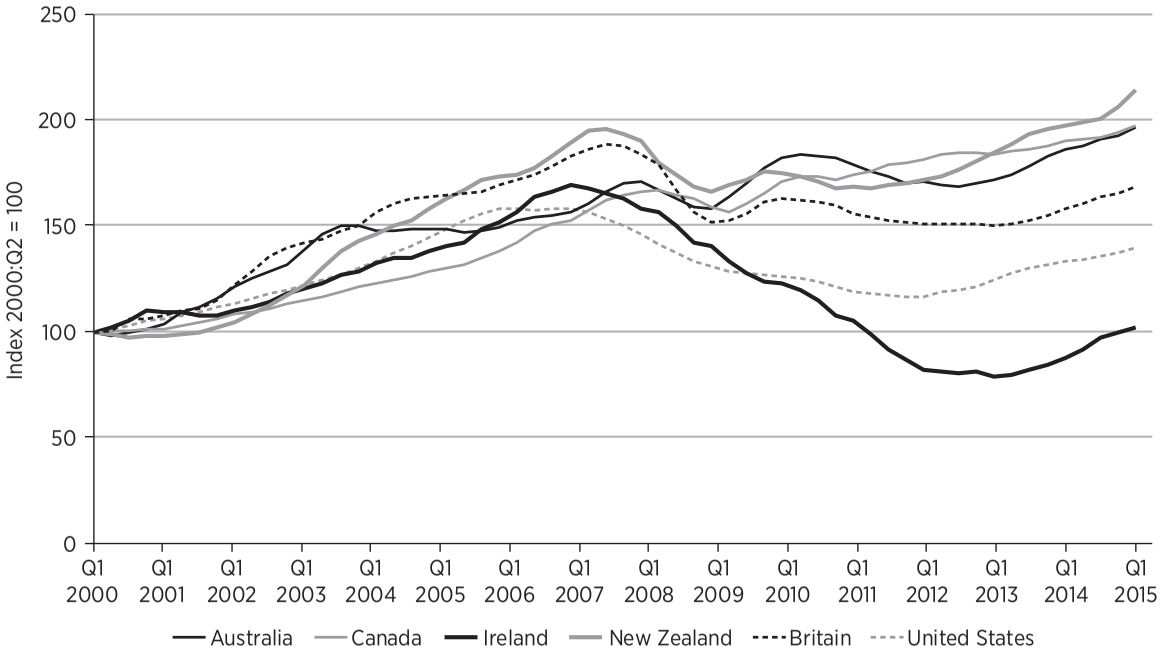

FIGURE 1.6. Housing prices in six countries, 1999–2014

Source: The Economist via OECD; ONS; Reserve Bank of New Zealand; Standard & Poor's; Teranet—National Bank, https://infographics.economist.com/2017/HPI/index.html

TABLE I.1 **US housing statistics versus unemployment rate**

Month and year	Starts	Completions	Average	Unemployment rate
January 2006	2,273,000	2,036,000	2,154,500	4.7%
April 2008	1,013,000	1,022,000	1,017,500	5.0%
October 2009	534,000	746,000	640,000	10.0%

Source: Federal Reserve Economic Data.

The period from January 2006 to April 2008 provides a pretty good example of the classical model in action. As home building slumped, workers shifted into other sectors, such as manufacturing, commercial construction, exports, and services. Because NGDP kept growing (owing to relatively sound monetary policy), the unemployment rate stayed fairly low.

The housing slump did impose some costs on the economy. Workers often find it difficult to switch from one sector to another, and that caused a small rise in the unemployment rate. But these "reallocation" costs are trivial compared to the costs that occur when money is too tight and NGDP falls. Between April 2008 and October 2009, when NGDP fell sharply, the unemployment rate soared from 5.0% to 10.0% (see table I-1). Now jobs were not being lost not just in home building but also in manufacturing, commercial real-estate construction, and even many service industries.

It seems clear, therefore, that the housing bust did not cause the Great Recession. But what about the view that big financial crises always lead to big recessions and slow recoveries? It's not at all surprising that the two are often associated with each other, because people, businesses, and governments can be expected to have more trouble repaying debts when NGDP falls sharply. But that correlation in no way prevents the central bank from promoting a rapid recovery through monetary stimulus. The banking crisis of 1933 was perhaps the worst in American history, but both NGDP and RGDP rose rapidly after March 1933, despite the fact that much of the banking system was shut down at the time.

How did that 1933 growth miracle occur? According to Ben Bernanke, it was FDR's decision to adopt a highly aggressive and unconventional form of monetary stimulus—in the form of dollar devaluation. In 1999, Bernanke wrote a paper entitled "Japanese Monetary Policy: A Case of Self-Induced Paralysis?"—a question he answered in the affirmative. In the final sentence of the paper he implored the Bank of Japan to show

"Rooseveltian resolve" in the face of the zero-interest-rate problem, as FDR had in 1933 after defeating Hoover in a landslide election.[10] Unfortunately, when it was the Fed's turn to show Rooseveltian resolve at the zero-interest-rate boundary, it fell short.

A common misconception is that the Fed "did all it could." Some excuse the Fed by pointing to the political unpopularity of unconventional tools such as qualitative easing and negative interest on bank reserves. But the Fed did not reach the zero bound until mid-December 2008, by which time most of the great NGDP collapse was over. When the Fed met two days after Lehman failed in September 2008, it refused to take even the most basic of conventional monetary policy steps, such as cutting its target interest rate (which was 2% at the time). In his memoir, Bernanke concedes that it was a mistake not to cut rates in September 2008. Later I'll explain why this isn't just Monday-morning quarterbacking; it should have been obvious to policy makers at the time.

Even after interest rates finally were cut to 0.25% in December 2008, the Fed was far from doing all it could. It could have cut them further, to 0.0%, or –0.25%, or –0.5%, or –0.75%. It could have done far more quantitative easing. More importantly, it could have adopted an alternative policy target, such as the "price-level targeting" that Bernanke recommended the Japanese adopt when they were faced with similar circumstances. Interestingly, Bernanke has recently resumed his advocacy of price-level targeting now that he is no longer Fed chair.[11]

In fairness, I think Bernanke did better than most other economists would have in his place. He was not a dictator—he had to work with many other policy makers at the Fed, some of whom had much less enlightened views on monetary policy. The Fed did far better in 2008–2009 than in 1929–1933, and far better than the European Central Bank did. Yet despite the policy of low interest rates and quantitative easing, monetary policy was still effectively tight, and this contributed greatly to an unnecessarily severe recession.

Bernanke has already admitted that the Great Depression was the Fed's fault. He has also asserted that the Fed deserves much of the blame for the Great Inflation of 1966–1981 and much of the credit for producing what he has called the "Great Moderation" of 1984–2007, a period when the economy performed rather well.[12] I agree with all three of these claims: all three "Greats" were strongly linked to Fed policy. So why is it so far-fetched to believe that the Great Recession was also at least partly the Fed's fault?

Almost Everything You've Heard about the Great Recession Is Wrong

In the following chapters we'll go on an intellectual journey. It may involve unlearning many things you "know" that actually just aren't so. Here are just a few of the many myths regarding the Great Recession:

- Housing was a bubble that inevitably had to burst.
- The decline in home building caused a big rise in unemployment.
- Beginning in 2008, low interest rates represented easy money.
- Monetary policy was no longer highly effective at zero interest rates.
- NGDP and RGDP declined despite monetary stimulus from the Fed.
- The Fed was unable to stop the decline in GDP during 2008 because interest rates had already fallen to zero. (They had not.)
- The Fed cut interest rates as far as it could.
- The financial crisis caused the Great Recession.
- An economy cannot recover rapidly during and after a severe financial crisis.
- After the debt crisis many Americans struggled to make ends meet, and therefore it made sense for aggregate demand to decline—for Americans to "tighten their belts."

All these and many other misconceptions will be punctured in the following chapters.

Postscript

Just after this manuscript was completed and sent to the publisher, the US was hit by the COVID-19 epidemic and spiraled into a deep depression of uncertain duration. The primary cause of the depression was a real shock, and hence is largely beyond the scope of this book. With nominal (monetary) shocks, the problem can be fixed with more money. When there's a real shock that prevents people from working or shopping, simply injecting more money into the economy cannot solve the fundamental problem.

Nonetheless, there is a real danger that this epidemic could have secondary effects on nominal spending that end up making the depression worse than necessary. In that case, expansionary monetary policy can play a useful role. Early indications are that inflation is likely to fall during 2020

and 2021—exactly the opposite of what is appropriate when aggregate supply declines. Thus, while monetary policy cannot fix the constraints on output caused by COVID-19, a more stimulative monetary policy may be able to reduce the secondary effects of the epidemic on total nominal spending. I suspect that by the time you are reading this book, the problem will have largely shifted from the supply side to the demand side.

While reading this book, you'll notice a few claims that seem a bit out of tune with the COVID-19 slump. I've kept them in the final revision, as I don't wish to shift the focus from the demand shocks that typically drive US business cycles to the highly unusual events of 2020. This book attempts to explain normal business cycles—COVID-19 would require another very different book.