How the Economy Works

Confidence, Crashes and Self-Fulfilling Prophecies

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CHAPTER 1

Introduction

If economists could manage to get themselves thought of as humble, competent people on a level with dentists, that would be splendid.

—John Maynard Keynes (1931, p. 373 of the 1963 Norton edition)

THE COLLAPSE OF NORTHERN ROCK

In September 2007, I attended a conference at the Bank of England. The topic was "The Great Moderation." This is the name given by economists to the fact that the post-war global financial system displayed greater stability in the period after 1980 than before. From 1951 through 1979, inflation, interest rates, and unemployment were high and volatile. After 1980, they all fell and began to display more moderate fluctuations from month to month. The world had changed. But why?

Economists from around the globe met in London in a self-congratulatory mood. Our task was to decide if the remarkable improvement in worldwide economic fortunes was due to new technology, a better understanding of monetary policy by economists and central bankers, or plain good luck. Many of the papers presented at the conference argued that central bankers were doing a much better job through a new policy, inflation targeting, and that new-Keynesian monetary theory, developed by academic

economists, had led to improved global financial stability. How wrong we were.

On the evening of September 13, the final day of the conference, we convened for dinner in the Court Room of the Bank. The dinner was to be hosted by the governor, Mervyn King, who was unaccountably delayed. Charlie Bean, who was then research director of the Bank, gave the welcoming address. At my table, there were five academics plus Rachel Lomax, one of two deputy governors. It was a spectacular dinner. The staff of the Bank wear red waistcoats and pink top coats, and the Court Room of the Bank is an architectural jewel and one of the few surviving rooms from architect John Soane's original 1814 building, most of which was rebuilt in 1925. I had a lively discussion with Rachel Lomax, which was frequently punctuated by messages from men in pink coats who would call her away temporarily to take care of urgent business. Mervyn King never appeared. I learned the next day that I had been present during negotiations for the first major bank bailout of what was to become the largest financial crisis since the Great Depression.

In 2007, Northern Rock was one of the five largest mortgage lenders in the UK. It had begun life as a building society, a peculiarly British cooperative institution that ploughed back all profits to its members. Traditionally, banks and building societies in the UK borrowed money from local savers. They took this money and lent it to local borrowers in the form of mortgages that were secured by residential property. The bank manager knew the customers and had a personal relationship with all of his clients. The building societies were owned by the savers, and any profits they made through spreads on lending and borrowing rates were returned to savers as dividends.

In the 1990s, Northern Rock was allowed by the government to convert itself into a profit-making institution

and to sell shares on the stock exchange. In the early years of the new millennium, Northern Rock and other commercial banks began to make riskier loans and to borrow from each other on a short-term basis to provide the capital for their mortgages. Northern Rock began to provide mortgages worth 125% of the value of homes. Since it had a relatively small amount of deposits from savers, it relied instead on the ability to borrow money cheaply on the London Interbank Market to finance its loans.

The rate at which banks borrow and lend to each other is called LIBOR, the London Interbank Offered Rate. In August 2007, the LIBOR began to climb steeply and Northern Rock's business model became unsustainable. It was forced to ask the Bank of England for emergency funds, and in February 2008, Northern Rock became the first of many world financial institutions to be owned, wholly or in part, by the taxpayer. Shortly following the fall of Northern Rock, the global financial system underwent a meltdown that hadn't been seen since the 1930s. This book is about how we got to that point and what we can do in the future to prevent it from happening again.

CLASSICAL AND KEYNESIAN ECONOMICS

There is a major disagreement between two groups of economists about how the economy works. On one side, there are *classical economists* such as Eugene Fama of the University of Chicago, who believe that unregulated markets are inherently self-stabilizing and that government intervention often does more harm than good. On the other side, there are *Keynesian economists* such as the Nobel Laureate and *New York Times* columnist Paul Krugman, who believe that the market system needs a little help sometimes.

In the 1980s, the U.S. presidency under Ronald Reagan and the UK government under Margaret Thatcher were strongly influenced by classical economics. A leading exponent of classical ideas was Friedrich Hayek, an Austrian intellectual who fled Hitler's Germany to teach at the London School of Economics. In 1944, he published an influential book, *The Road to Serfdom*, which argued that the trend toward collectivization occurring throughout the West in the 1940s was incompatible with democracy.[1] Hayek was a strong opponent of all forms of socialism and his ideas were an important influence on Margaret Thatcher.[2] Hayek's philosophy is aptly summarized by Ronald Reagan's famous quip: "The nine most terrifying words in the English language are: 'I'm from the government and I'm here to help.' "

In contrast to the economics of Reagan and Thatcher, the Obama administration of 2009 is strongly influenced by the ideas of John Maynard Keynes, a British economist who wrote a famous book in 1936, *The General Theory of Employment, Interest and Money.* In it, he developed a completely new theory of how the economy works. Keynes argued that the Great Depression occurred because firms were not spending enough on factories and machines and that this lack of private investment expenditure should be replaced by government expenditure that was to be financed by borrowing. His arguments were responsible for the fact that government in the United States currently accounts for nearly one-third of the entire economy.

Hayek was a champion of individual freedom and a fierce opponent of socialism. He believed that government intervention in markets more often does more harm than good. In contrast, Keynes thought that markets must be regulated to help them work better. For him, government intervention is like adding oil to a squeaky wheel. In 2007, the debate

between classical and Keynesian economics reemerged with a vengeance and battles over government's role were once more fought in the pages of the *Wall Street Journal* and the *New York Times*. What are the battles? Who are the protagonists? Who is right?

THE SIZE OF GOVERNMENT

Should government be big or should it be small? Should government intervene in markets sometimes or should it always let markets operate freely? Although these are distinct questions, they are often confounded. The first relates to which goods and services should be provided by the free market and which by the government. The second relates to the rules under which the free market will operate.

As a society, we must choose whether to provide publicly funded pension systems. We must decide whether education is to be provided by the state or by the free market. And we must decide whether health care is to be freely provided to all and, if so, how much of it to provide. These are all questions about the size and scope of government.

Given that some services are to be provided by the market, what laws should govern interactions among citizens in market transactions? When a firm goes bankrupt, how should we divide its assets among different types of creditors? Should government prevent some mergers on the grounds that a very large company can restrict competition? Should all prices be chosen freely by the market, or are there some prices that must be controlled through government intervention? These are all questions about the rules under which the free market should operate.

Although there are no right answers to these questions, there are important principles that should govern our choices. History has shown us that free market economies

can provide faster growth and higher living standards than planned economies. There was a reason for the fall of the Berlin Wall in 1989 and for the decision of Communist China to adopt a market system after President Nixon's visit to China in 1972. Capitalism is the single most successful engine of growth in human history. It is responsible for lifting more people from starvation and misery than any known alternative. But capitalism is not a monolithic concept; it comes in different forms and it cannot exist without a well-defined legal code. The question is not whether to regulate capitalism: It is how to regulate it.

EFFICIENT MARKETS

Classical economics today is championed in the United States by economists from the University of Chicago, which boasts five living Nobel Laureates in economics. A leading figure at Chicago is Eugene Fama, known for his work on the efficient market hypothesis. This is the idea that financial markets summarize all of the information that participants need to make quick and efficient decisions. In the 1990s, investment banks began to develop new kinds of financial instruments, called derivatives, that split the payments from business ventures into pieces and allowed market participants to trade different kinds of risk. The theory that traders use to price derivatives was developed by academic financial economists.

As new financial instruments were developed, the banks that created and traded them made huge commissions every time they changed hands. Along with high commissions went enormous compensation packages for traders and executives. Million-dollar bonuses were common and chief executive bonuses were often in the tens of millions of

dollars. The record in 2006 was a $53.4 million bonus paid to Goldman Sachs CEO Lloyd Blankfein.[3]

Why were the titans of finance paid so much? According to efficient market theory, the creation of new markets for derivatives was responsible for growth in the real economy. Derivatives markets enable traders to share risk efficiently, and the development of new derivatives markets encouraged firms to engage in profit-making activities that they might otherwise have avoided. As firms made profit, they created jobs, and according to the theory, everybody was a winner. Traders in the financial markets truly believed that, in the new world order, the creation of derivatives had helped to eliminate the adverse effects of risk by sharing it among a larger number of participants.

In the 1990s, regulations governing the financial services industry in the United States were relaxed. Most notably, the 1933 Glass-Steagall Act that had placed a wall between commercial banks and investment banks was repealed in 1999. Deregulation of this kind contributed to the creation of the markets for new and exotic derivatives, and some have argued that deregulation was responsible for the 2007–2008 financial crisis.[4] I find this argument unpersuasive, not least because bubbles and crashes have been with us as long as there have been organized markets.

Regulations such as the Glass-Steagall Act may have contributed to a long period of relative stability after World War II. But active monetary policy by the Bank of England and the Fed in the United States also helped. What is different about the 2008 crisis is not the end of regulation; it is the fact that the interest rate is close to zero and central banks are unable to lower rates further to stimulate the economy. This is exactly what happened in the United States in the 1930s, and it has happened again recently, not just in the United States, but also in Continental Europe and the UK.

The crisis that began in 2007 was preceded by a bubble: a rapid expansion and subsequent collapse of an asset price that is not connected in any obvious way with market fundamentals. Bubbles are common in financial markets and they are often followed by recessions. Earlier examples of bubbles include the Tulip Mania of 1637, the South Sea bubble of 1720, and a series of financial panics in the United States in 1819, 1837, 1857, 1873, and 1893, each of which was similar in character to the Great Depression of the 1930s.

The Tulip Mania is a bizarre and fascinating example of a bubble: It is fascinating because in this case, the underlying asset was a common or garden tulip bulb, a flower that had recently been introduced to Holland and that was, at the time, new and exotic. At the peak of the bubble in February 1637, tulip contracts sold for more than 10 times the annual income of a skilled craftsman. My favorite story from this period is that of a rich Dutch merchant who returned home one evening to his Amsterdam townhome to find that the maid had eaten his prize tulip bulb, thinking it was an onion.[5]

THE ROARING TWENTIES

The first example of a financial bubble in the twentieth century emerged in the 1920s. At this time, most economists believed that markets function smoothly and that capitalism, if left to itself, will deliver prosperity. Although they recognized that market systems lead to regular swings in economic activity, most economists viewed fluctuations as minor and the system itself as self-correcting. This intellectual climate reflected the economic reality of the times: the roaring twenties.

Calvin Coolidge, U.S. president from 1923 to 1929, was a staunch supporter of free markets, and his laissez faire

policies delivered a period of remarkable prosperity and growth that was not unlike America in the 1990s and early 2000s. The mood of optimism was infectious and the public widely believed that the stock market had nowhere to go but up. This mood was buoyed by experts such as the American economist Irving Fisher, who made a fortune from the invention of the visible card index system, which he patented in 1913. His success was short-lived and he

> subsequently lost a fortune . . . when he borrowed money to exercise rights to buy additional Rand shares in the bull market of the late 1920s. . . . Fisher had staked his public reputation as an economic pundit by his persistent optimism about the economy and stock prices, even after the 1929 crash. His reputation crashed too, especially among non-economists in New Haven, where the university had to buy his house and rent it to him to save him from eviction. Until the 1950s the name Irving Fisher was without honour in his own university.[6]

Fisher's blunder is one of the most famous examples of a bad call in the history of economic forecasting. His faith in the free market was painfully and tragically tested when, between 1929 and 1933, unemployment in the United States increased from 6% to 24% of the labor force and output fell 25% below trend.

Then, as now, economists and politicians were divided as to the best course of action. Herbert Hoover followed Coolidge into the White House in 1929 when Coolidge declined to run for a further term. Hoover lasted only four years, during which he presided over the worst collapse in economic activity in U.S. economic history. This was the beginning of the Great Depression, a decade-long drop in world economic output that scarred a generation

and contributed in Germany to the rise of Hitler and the beginning of World War II.

THE GREAT DEPRESSION

The Great Depression caused a change in the political sphere that persists to this day. Western democracies began to recognize a vastly increased role for the federal government in the management of economic affairs, and following the Employment Act of 1946, U.S. politicians were given a much larger role in the management of the economy than they had previously enjoyed.

Why was the increased role for government accepted by the people? A major reason is that John Maynard Keynes provided a theoretical explanation of what had gone wrong. In his 1936 book, he explained what caused the Great Depression and he provided a remedy to prevent events like it from occurring again. The main difference of Keynes's ideas from those of his predecessors was his rejection of the idea that the economy is a self-regulating system. The classical economists thought that the economy, if left to itself, would quickly return to full employment. Keynes disagreed.

The classical Norwegian economist Ragnar Frisch likened the economy to a child's rocking horse. The horse is regularly buffeted by shocks. Think of a child hitting the horse with a stick. According to Frisch, these blows are like major economic events: a war in the Middle East, a hurricane in the Midwest, an airline pilots' strike. After each shock, unemployment might rise temporarily as the economy readjusted to the blow, but it would quickly return to its equilibrium level, just as the rocking horse will come to rest if left alone. This is a good physical analogy to the classical idea of a self-correcting economic system.

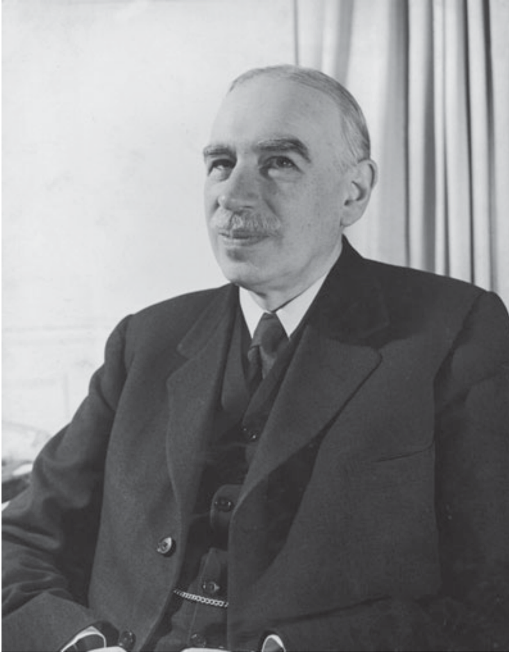

FIGURE 1.1 John Maynard Keynes, 1883–1946. Keynes was the most influential economist of the twentieth century. He was an academic, a civil servant, a statesman, and a journalist. Keynes's book, *The General Theory of Employment Interest and Money* (1936), transformed the role of the state in capitalist societies and was responsible for the way we currently think of the role of government in the economy. (Time & Life Pictures/Getty Images)

Keynes had much less faith in the free market. In Keynesian economics, the economy is like a boat on the ocean with a broken rudder. Gusts of wind represent major economic events: a war in the Middle East, a hurricane in the Midwest, an airline pilots' strike. After each shock, unemployment rises or falls permanently and there is no self-correcting mechanism to return it to a unique

equilibrium: Just as a sailboat will be becalmed wherever it comes to rest, the unemployment rate can end up anywhere. The classical economists saw the economy as a stable self-correcting system. Keynes did not.

STAGFLATION

Keynesian economics was widely accepted after World War II as a correct description of the way the economy works. From Keynesian theory there came a prescription for how to run policy that was followed successfully for three decades, from 1940 through 1970. In recessions, the central bank should lower the interest rate to stimulate private spending and increase aggregate demand. This is called monetary policy. In recessions, the government should spend more and pay for it through increased borrowing. This is called fiscal policy.

The legacy of Keynesian economics dictates the actions that are followed to this day to combat recessions. Many academic economists have, however, lost confidence in the theory put forward by Keynes to explain why monetary and fiscal policy are appropriate and how they work.

The loss of faith in Keynesian economics occurred as a consequence of a confluence of events in the 1970s that was unexpected because it was inconsistent with the basic tenets laid out by Keynes in *The General Theory*. In 1975, unemployment rose above 9% for the first time since the Depression and at the same time inflation rose above 13%. This coincidence of inflation and unemployment was dubbed *stagflation* by contemporary writers. Since Keynesian economics claimed that high unemployment and high inflation could not occur together, academic economists abandoned Keynesian theory. But although academic economists gave

up on Keynes, economic policymakers did not give up on Keynesian policies.

Recently, politicians and commentators have rediscovered Keynes, and governments around the world have begun to spend money freely that they don't have. In the United States, the Obama administration passed legislation in the fall of 2008 to enact an $800 billion fiscal stimulus to be spread out over two and a half years. In the UK, the governor of the Bank of England, Mervyn King, attacked the chancellor of the exchequer, Alistair Darling, for running "extraordinary deficits" that were predicted to cause government debt to reach 80% of GDP by 2014. The French president, Nicolas Sarkozy, engaged in a remarkable public spat with the German chancellor, Angela Merkel. In June 2009, Germany passed a balanced budget law that threatened to reduce public debt to zero, while Sarkozy went on record as favoring large government deficits as long as the economy was in trouble. These divergent policies cannot be good for the future of the euro!

The remarkable new move toward fiscal profligacy has led to discomfort among some academic economists who believe that the stagflation of the 1970s discredited the Keynesian theory that supports deficit spending as a way out of a depression. Important critics of fiscal deficits include Robert Barro of Harvard University and John Taylor of Stanford University.[7] Barro and Taylor are classical economists who believe that government intervention often does more harm than good.

Other academic economists do not have fully worked-out theories of the crisis but are willing to back the fiscal stimulus because they believe that Keynesian economics is sound and that there is no good alternative to save the global economy. Writing in the *New York Times*, Paul Krugman dismisses arguments by John Taylor and Eugene Fama

against the stimulus on the grounds that their arguments are without substance and are politically motivated. Krugman is persuaded by Keynesian ideas but is still searching for a sound economic model with which to expound them:

> I'm on a continuing quest to develop a tractable model. . . . Why? you may ask. Why not go with verbal intuition? Well, I'm enough of a conventional economist to think that there's no substitute for a model with dotted i's and crossed t's; it's not *the truth*, but it really does help clarify your thinking. (Krugman, 2009; emphasis in original)

Krugman is right. In order to move the debate forward, it is essential that economists have a common framework to understand what went wrong and how to correct it. U.S. critics of the Obama fiscal spending plan such as Barro, Fama, and Taylor are not just opposed to the plan on purely political grounds, although that surely contributes to their opposition to the proposed increase in the size of government. More fundamentally, Keynesian economists in the Obama administration and their supporters in academia and in the media have not provided an internally consistent theory that explains why the free market fails to deliver full employment.

Keynes's book, *The General Theory,* did not provide such a theory. The book is difficult to read, internally incoherent, and inconsistent with a body of economic theory that has been widely accepted for at least 200 years. More important, it is inconsistent with the existence of the stagflation that we observed in the 1970s. According to Keynes, we should expect to see high inflation or high unemployment, but not both at once. In the absence of a consistent theory that explains why free markets sometimes fail, conservative

critics of the Obama fiscal stimulus retreated into a body of classical ideas that provides a different answer to the crisis. According to them, government is the problem and not the solution.

WHY FISCAL POLICY IS THE WRONG APPROACH

This book explains the progression of thought from classical to Keynesian ideas. But it is much more than that. I also have something new to say that is neither Keynesian nor classical. Economists use models of the economy to nail down their assumptions about how the economy works. A model is a mathematical description of an economic theory, and a good model is synonymous with a good theory. Krugman is right in his assertion that there is no substitute for "a model with dotted i's and crossed t's" since it is by modeling the economy that we make our ideas precise.

When I began the project that I describe in this book, I intended to find such a model. I believed that it would provide the missing intellectual foundation to Keynesian economics. I wanted to fix *The General Theory* by showing how Keynes could be made consistent with the rest of economics. I thought that this fix would enable me to understand stagflation and I expected that my work would explain why the Obama fiscal stimulus is the right way to restore full employment.

But the deeper I got into the project, the more I realized that to fix Keynesian economics, I also had to change it. Keynes's fundamental proposition is that the free market is not self-stabilizing. I agree with that proposition and I share my belief with Keynesians such as Paul Krugman. But in providing a formal explanation of why Keynes was right, I

grew to believe that fiscal policy may not be the best remedy. Although the fundamental ideas of *The General Theory* are correct, the details of the theory that led Keynesians to propose additional government expenditure are wrong.

Keynes advocated fiscal policy because he thought that private firms were not investing enough during the Great Depression. He thought that consumption would go up automatically when income went up because people spend a fixed fraction of their income and save the rest. But two decades of research in the 1950s and 1960s showed that consumption does not depend on income: It depends on wealth. When government spends more, households save more. They know that the government will not be able to provide for their retirements in the future if it has a huge debt to repay. That is exactly what happened in the United States, the UK, and Europe in 2009 in response to the fiscal stimulus; the increase in saving partially offset the positive effect of the increased expenditure by government. Fiscal policy *can* help the economy out of the recession; but it is not nearly as effective as the Keynesians think, and the cost will be a permanent increase in the size of the government sector that will be paid for by our grandchildren.

The director of the National Economic Council in the Obama administration is Larry Summers, former president of Harvard, former secretary of the Treasury, former chief economist at the World Bank, and an academic economist of considerable standing in the profession. Summers is a nephew of two eminent Nobel Laureates in economics, Ken Arrow of Stanford University and Paul Samuelson of MIT. Arrow is known for his work on general equilibrium theory, a body of ideas that lies at the heart of classical economics. Samuelson, who died in December of 2009, was one of the world's most distinguished living Keynesians.

He is responsible for the way that almost all academics and policymakers interpret Keynes today.

My main theme in this book is that the way that Samuelson proposed to reconcile Keynes with general equilibrium theory is wrong. When Samuelson's theory is combined with modern explanations of how people form their expectations of the future, it misses the main message of Keynes: High unemployment can persist forever.

WHAT GOVERNMENTS SHOULD DO INSTEAD

Although I believe that Keynes had a lot of important things to say, I am not a Keynesian. Instead, I will describe a new theory of macroeconomics that goes beyond classical and Keynesian theories. I will combine the main ideas from Keynesian economics with classical thought. A central part of my new theory is that the beliefs of market participants in the value of the stock market matter, and they can have an *independent* influence on economic activity. Confidence matters: A loss of confidence can become a self-fulfilling prophecy and lead to a downward spiral in economic activity that ends in a depression.[8]

Monetary and fiscal policy *may* have the effect their proponents claim, but only if households and firms regain confidence in the economy by buying tangible assets such as houses and by putting their wealth into the stock market so that firms will start to invest again in factories, and machines. There is no sound economic reason that this will occur just because government borrows money and spends it on goods and services.

If households maintain the pessimistic belief that houses, factories, and machines are worth less than they were before the recession began, this belief will be self-fulfilling.

Confidence matters. It is a separate, *independent* factor that helps to determine the unemployment rate. If we do not restore confidence, the economy may begin to grow again, but the private sector will not create the jobs that are required to restore full employment.

Just as confidence can be too low, it can also be too high. If confidence builds too quickly, bubbles will arise in the asset markets that can lead the economy to have *too much* employment. When the economy grows too fast, it is harder for the central bank to control inflation. Bubbles and crashes are both harmful to economic well-being. To counteract the effect of swings in confidence, I propose a new policy that does not involve large fiscal deficits and that is a simple extension of the current central bank policy of interest rate control. I will argue that central banks throughout the world should intervene in markets to prevent wild swings in stock market prices, and I will explain why this makes sense.

A NEW PARADIGM AND A NEW POLICY

Some economists have suggested that central banks should raise domestic interest rates to prick stock market bubbles and lower them to prevent market crashes. This is not what I am advocating. Rather, I propose that the Bank of England, the Federal Reserve, and the European Central Bank should engage in a concerted effort with other national central banks to target domestic stock market indices in addition to their traditional role of setting domestic interest rates. My proposal allows a nation's central bank to use variations in the domestic interest rate to fight inflation and variations in the growth rate of a national stock price index to manage confidence and select a high employment equilibrium.

My policy proposal is based on a new theory that combines the best features of classical and Keynesian economics.

From classical economics, I take the idea that a sound theory must explain how individuals behave and how their collective choices determine aggregate outcomes. From Keynesian economics, I take the idea that markets do not always work well and that sometimes capitalism needs some guidance. These ideas form a coherent new paradigm for macroeconomics in the twenty-first century. It is my hope that we can design ways of correcting the excesses of free market economies that preserve the best features of capitalism without stifling entrepreneurship and without adopting the inefficiencies of centrally planned economies. The following pages show how.