

ONE The World Economy Is Broken

IT IS CLEAR THAT THE WORLD ECONOMY is in a mess. Since its collapse in the autumn of 2008, the world economy has gone through three distinct phases. It contracted by 6 percent between 2007 and 2009. A bounceback took place in 2009–10, which did not amount to a full recovery because output rose by only 4 percent. Then the recovery paused, and some countries have experienced another downturn, albeit one much shallower than that in 2008–9.

The resulting damage over the past four years has been immense. The world economy is 10 percent poorer than it would have been had economic growth continued smoothly after 2007, and unemployment has risen sharply. In many advanced countries the level of activity has even now not yet returned to what it was in 2007. And the pain is not yet over. However much national economies pick up, unemployment is set to fall only very slowly in the United States and Europe. For unemployment to drop significantly, we need a resumption of global growth. That does not seem likely based on current policies. Five years after the collapse, even economic growth in China and India is falling.

Instead we live in a world in which risks to global growth appear great. The risk of a European crisis is real, as indicated by newspaper coverage that looks like *The Perils of Pauline*. Both consumers and the financial system are anxious to deleverage—that is, to pay down debt. The public sectors are under pressure to reduce government deficits and pay down public debt. Concern is mounting about international trade imbalances like those between Germany and Southern European countries, and many observers are alarmed by the magnitude of government debt in Southern Europe. The imbalances

between the United States and East Asia, including China, are troubling, and some are concerned about the stability of US debt held in the form of Chinese foreign exchange reserves. In the face of this uncertainty, productive investors are holding back from making large-scale investments. At a time of great uncertainty, many producers deem it unwise to invest, just as consumers find it prudent to save.

How can policymakers get growth to recover and unemployment to fall when there are so many troubling signs? Depending on whom you talk with, the unnatural magnitude of either unemployment or debt is a major sign of disarray. These symptoms of economic distress can be observed in many countries in America and Europe, but they are only parts of the problem that need to be addressed. For these national problems are all aspects of an international problem, in fact a global one.

We contend that the multitudinous national problems can be solved only in the context of straightening out the international economy. We argue that domestic (internal) economic problems cannot be solved without also resolving international (external) problems. Unless the trade of major countries can be made more balanced and the debts of some unfortunate countries can become more acceptable to investors, it will not be possible to restore prosperity within nations. This holds both in Europe and for global trade among industrialized countries.

We argue further in the following pages that the modern world economy falls apart occasionally from lack of international leadership. A hegemonic country has the power to help countries cooperate with one another for the maintenance and, when needed, the restoration of prosperity. When no country can or will act as hegemon, a world crisis erupts. The Great Depression was the result of Great Britain's loss of hegemonic power and the failure of the United States to pick up the mantle. The weakness of the recovery from the Global Financial Crisis, of 2008, and the future risks to this recovery, is the result of the United States' diminished influence and the lack of a successor on the world stage.¹

We can learn how to understand our current troubles by comparing the current crisis with the Great Depression. The parallels are a bit frightening, and we hope that the lessons learned from the comparison can speed the resumption of prosperity. One lesson is that large international crises are hard to understand; it took many years for John Maynard Keynes and others to understand what was happening in the 1930s. If this book can help cur-

rent politicians and economists frame the right questions, perhaps we can help speed the journey out of the present troubled economic woods.

This book explains how domestic and foreign problems, which we generally refer to here as internal and external problems, respectively, are related and how economic policies can be constructed to make progress in both areas. We call on history to show how ignoring one or the other problem has led to economic disaster, and we use simple economic tools to explain how to view these problems in concert. It is sad that few people recall this history and remember the simple tools used to grapple with such situations, and we hope to raise the awareness of these tools in our readers.

All countries are part of the world economy. Some are more active than others, but few of them can exist without contact and commerce with other countries. This need for external contacts imposes obligations on each country to participate in the general patterns of the common world economy. When something goes wrong either domestically or abroad, a country needs to make internal adjustments to adapt to the new situation. The adjustments then will alter the external relations of that country, forcing other nations to adapt as well. In other words, domestic and international aspects of economic health are intertwined.

We focus on the problems of fixed exchange rates: the gold standard, the euro, and the dollar-renminbi peg. The basic theory of the relations between countries on the gold standard was formulated by David Hume over two centuries ago. The price-specie-flow mechanism has been taught to generations of students, but insufficient thought has been given to how this mechanism works (or does not work) in an industrial world. Keynes tried to unravel this problem when he testified before a government committee of enquiry in 1930, known as the Macmillan Committee. But he was confused and failed to convince anyone of his views. He subsequently tried to address the questions he failed to answer in front of the committee, and we follow him in this effort. We argue that today's policymakers have forgotten the progress made in understanding how fixed exchange rates worked in the past, lessons which Keynes learned, with painful consequences. We use a mixture of history and theory to explain what is required to dig ourselves out of the deep hole into which the world economy has fallen.

This complicated project requires explanation. We provide background in this chapter, starting with national problems and progressing to those of the world economy. The description of contemporary conditions occupies

this chapter; the historical background needed to understand the role of international imbalances fills later chapters. We argue that the international imbalances are fundamental to the world economic problems we face today, even though these imbalances are not immediately apparent. Only by examining arcane data, such as the balance of payments, do observers sense the dynamics of the global economy—except of course in times of crisis like the one we have been living through.

The principal source of current distress is the waste of resources evident in the lack of employment for those seeking work. The most obvious way to gauge unemployment is to examine the unemployment rate. The rate in the United States is around 8 percent and only declining slowly. It rose dramatically in 2008 and 2009 and has stayed high since then (see Figure 1.1). This rate remains far higher than the 5 or 6 percent that economists previously thought was enough to account for labor-market frictions (that is, the processes of looking for good work and changing jobs when conditions change). The rate represents an increase of about 5 million workers who would be happy to work if there were jobs. There are 5 million or so additional workers who say they are underemployed.

However, unemployment rates include only those workers looking actively for jobs. As the recession drags on, more and more unemployed people become discouraged and stop looking. They will disappear from the lists of unemployed, but not into work. One way to avoid this bias in the rate is to examine the ratio of employment to the population. This ratio fell 5 percentage points from a narrow band close to 63 percent in 2008 and 2009. As with unemployment, the change appears to be durable; we certainly hope it will not be permanent. These data are shown in Figure 1.2.

There are many things wrong with this new “normal.” First is the waste of resources stemming from the forgone labor of the millions of unemployed workers. We do not have data on the unutilized and underutilized capital to go with them, but idle labor is a good indicator that we are leaving dollar bills on the sidewalk. There is no good reason to ignore millions of workers seeking work. Work is a defining characteristic of life, as witnessed by the number of names that echo employment, from Millers to Masons, Coopers, Taylors (tailors), and Weavers. It is worth recalling Orwell’s observations from England during the long spell of unemployment in the 1930s: “The peculiar evil is this, that the less money you have, the less inclined you feel to spend it on wholesome food. . . . There is always some cheaply pleasant thing

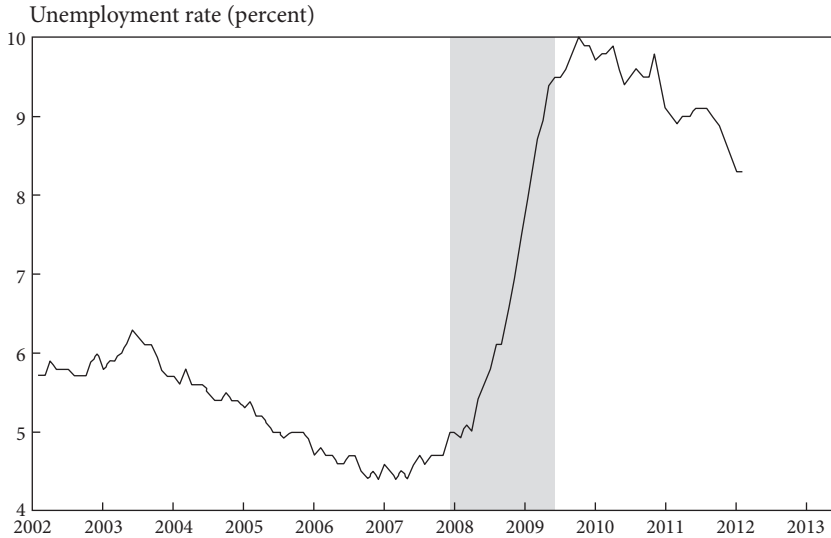


FIGURE 1.1 US unemployment rate

Source: US Department of Labor, Bureau of Labor Statistics. Available at <http://research.stlouisfed.org/fred2/>.

Note: Shaded area indicates US recession.

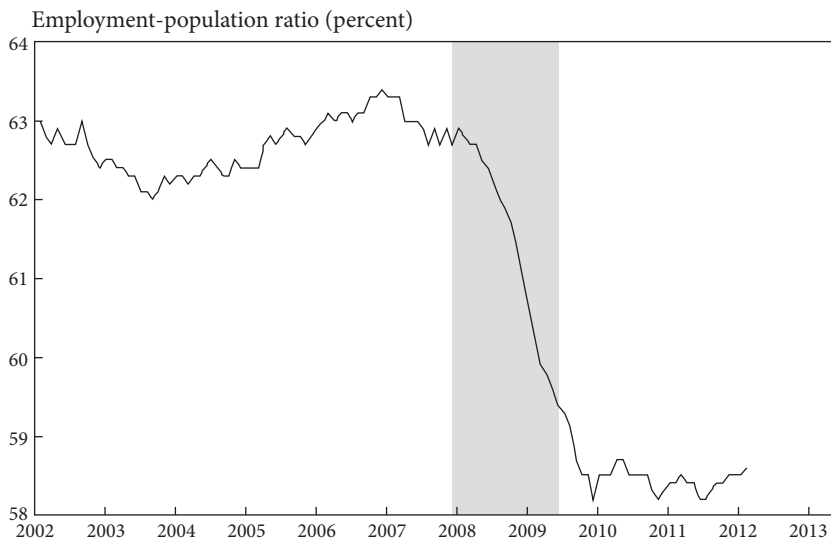


FIGURE 1.2 US employment-population ratio

Source: US Department of Labor, Bureau of Labor Statistics. Available at <http://research.stlouisfed.org/fred2/>.

Note: Shaded area indicates US recession.

to tempt you. . . . Unemployment is an endless misery that has got to be constantly palliated, and especially with tea, the Englishman's opium.”²

In addition to becoming depressed, unemployed workers lose their skills. They are like ice cubes that melt or evaporate when stored. They become harder and harder to employ again as their skills decline and their socialization into a working environment disintegrates. This is particularly hard on young people just entering the labor force. If they cannot find a good job to launch a career, they may miss out on this opportunity for the rest of their working lives as younger cohorts seize subsequent opportunities. In the United States, where health care typically is linked to employment, people may actually die from unemployment. By allowing unemployment to continue, we risk eroding the reservoirs of knowledge and skills that are key resources for economic growth in the long run.

Finally, depressed and unemployed workers take out their frustrations in politics. They are angry and prone to voting against anyone who has been in office without fixing the economy. They may be receptive to extreme views and to politicians who propose simple solutions to complex problems. The Nazi vote in Germany grew dramatically as unemployment increased in 1931 and 1932; riots in Greece during the autumn of 2011 and election patterns in 2012 showed the appeal of extreme positions today. We can only hope that such enthusiasms will not be embodied in national policies.

Unemployment is similarly rife in Europe, but there are differences that are important to our story. There is no United States of Europe. While Europe is roughly the same size as the United States, it is composed of about 30 independent countries. They are associated in a variety of mutual organizations, but they have not given up central issues of sovereignty to these entities. The European Union (EU) contains 27 member countries, and the European Monetary Union (EMU) has 17. Countries in EMU of course share a common currency—the euro. We describe these organizations more fully in Chapter 5, but the primary contrast with the United States can be stated here.

The United States was formed in 1789 when the separate states realized that they were vulnerable in their poorly organized confederation. The new constitution gave the federal government the ability to tax citizens of the previously sovereign states. George Washington's Secretary of the Treasury, Alexander Hamilton, had the federal treasury purchase all state debts at par—that is, for their face value—in 1790. In the short run, he was accused

of rewarding speculators who had bought highly depreciated state bonds. In the long run, he is credited with establishing the credit of the United States, a critical component of economic prosperity. The existence of the union was challenged only once, in the Civil War of the 1860s, and it has survived conflicts about the nature and extent of taxation for more than two hundred years.

The act of creating EMU established a uniform currency, the euro, but individual countries within the Eurozone maintained their own sovereignty. Monetary policy was centralized in a new European Central Bank, but fiscal policy was left to individual states—subject to guidelines that were stated but not enforced. Because member nations issued their own bonds, they were subject to country risks. EMU, in other words, adopted a single currency without also adopting centralized fiscal control.

Unemployment in the EU, and in the Eurozone, jumped in 2009 with the American rate. The picture is not as clear there as in the United States, due to both pervasive unemployment before the crisis of 2008 and great differences in the records of individual member countries. Economic policies since the crash have been contractionary in most European countries, and unemployment has continued to increase as a result. Unemployment rates for a few European countries are shown in Figure 1.3, where the contrast between Germany and Spain can be seen clearly. We analyze this divergence in Chapter 5.

The imbalance in the supply of and demand for labor is echoed in the financial markets. There appears to be money available everywhere, as indexed by the essentially zero return on securities of the US government and the variety of assets that ordinary citizens can buy at their local banks. But if an individual tries to borrow money for personal use or for her business, she discovers that she can borrow only with difficulty and by paying a large premium over the government rate. The difference partly comes from the risk that she or her business will fail to repay the loan (known as a risk premium). Large debts are common, and the cost of financing them varies by the perceived risk of default. Potential borrowers from banks who had assets of their own now find that their resources, and therefore their collateral, have been reduced. In these uncertain times with so many unemployed resources, it is hard for banks to evaluate the risks of individual enterprises. Banks therefore lend to only the safest customers and take a long time to decide who is worthy; many interest rates are above zero as a result.

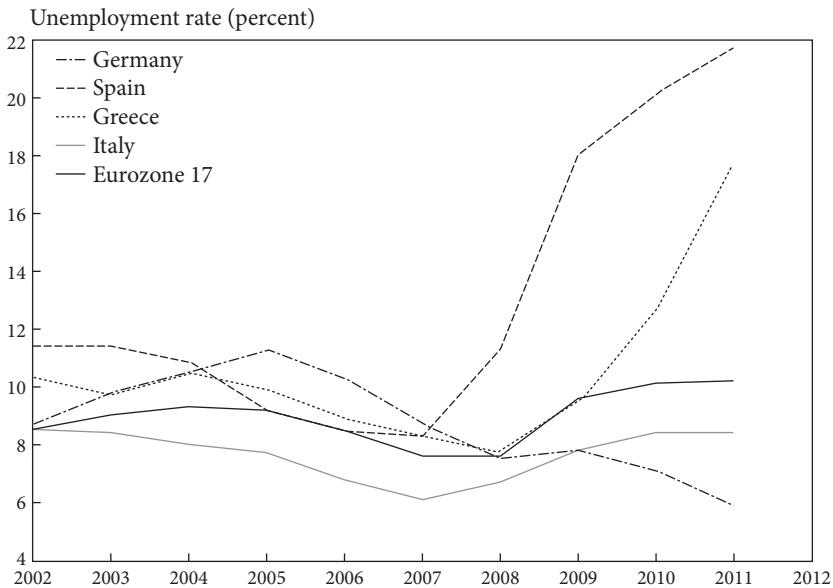


FIGURE 1.3 Selected European unemployment rates

Source: “Unemployment rate, annual average, by sex and age groups (%)” under the dataset “Employment and unemployment (Labour Force Survey).” Eurostat, updated April 2, 2012. Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>.

There are two other, more worrying, reasons why some interest rates on borrowing have remained high three years after the Global Financial Crisis of 2008. The first is that bank assets lost value in the crisis. Bonds of various sorts that seemed worth close to their face value before the crash are salable at prices far lower, if they are salable at all. Banks have been reluctant to admit that their balance sheets are less solid than they appear, and regulators have been loath to press them. Banks, whatever they say in public, are acting as if they lack adequate capital. They are restricting loans and charging high interest rates to rebuild their capital at their customers’ expense.

The second reason is that public bonds have come under fire as well as private assets. The credit of the United States is good and is viewed as such around the world, even though the US government lost its triple-A rating from Standard & Poor’s in the summer of 2011. The value of US government bonds has stayed high, and the interest rate on them hovers near zero. By contrast, the value of various European bonds has fallen as investors fear that they will not be redeemed at par. The decline in the value of these bonds,

held by banks in both Europe and the United States, has put additional pressure on bank balance sheets.

There are of course many kinds of debts, and they are all lumped together in the preceding paragraphs. One way to understand the relations among them is to invoke the most elementary truth of macroeconomics: investment equals savings. The latter gives rise to financial assets and liabilities, and it can be divided into three parts. Personal savings result in retirement accounts if they accumulate or in personal debts if people consume more than they earn and have negative savings. Governments save when they run a government surplus and have negative savings, which increases government debt, when they run a budgetary deficit. Foreign countries contribute their savings when a country imports more from foreigners than it sells to foreigners in exports. And foreign savings decrease when the foreign country buys more exports from a country than they provide to it by way of imports. Domestic investment then is equal to the sum of personal, government, and foreign savings.

This is simply an explanation of the elementary equation of macroeconomics. It acquires more life if one thinks about the movement of these quantities over time. Assume for simplicity at this stage that investment stays constant, so we can look at various kinds of savings. Then changes in one kind of savings need to be offset by changes in another to keep the two sides of the equation equal. For example, if a government dis-saves by running a large deficit, either domestic savings must rise or foreign savings must rise (in which case the country will run an increased foreign deficit). For most countries, this offset comes from foreign savings, giving rise to the story of this book. The example of Japan, where government deficits have been offset by domestic savings, reminds us that outcomes can vary with three kinds of savings. We expand this thought to the world in Chapter 6.

We argue that the world economy at the moment is unbalanced. This is revealed by the large and destabilizing capital flows among countries. The problem is not the flows themselves, as capital inflows have promoted economic development all over the world. But when capital inflows are used for consumption instead of investment, the receiving country does not create the capacity to repay the loans it received. Investors get scared, and a crisis can ensue.

Of all nations, China has the largest surplus on current account by far—more than \$300 billion in 2011. The runners-up are Germany and Japan,

with less than \$200 billion apiece. The only other countries with more than \$100 billion are oil exporters Saudi Arabia and Russia. The largest deficit country is the United States, with a current account deficit of close to \$500 billion. No other country comes close; they all have deficits under \$100 billion. In Europe, Germany again is the largest surplus country by far, joined by the Netherlands on a smaller scale; Italy, France, and Spain have the largest deficits. These imbalances have endured long enough to result in large assets and debts in surplus and deficit countries, respectively. The United States has about \$16 trillion of foreign debt, rivaled only by the total EU debt. China has the largest foreign reserves of any country, amounting to more than \$3 trillion in 2012.³

There is nothing wrong with international borrowing, but large debts can lurch out of control. If the borrowed resources are consumed instead of invested, borrowing countries may not generate enough surplus to repay the loans. Domestic housing should be considered as a consumer durable rather than investment in this discussion because houses are not traded on international markets. The three most important characteristics of housing are location, location, location, and an increase in domestic housing does not add to a country's ability to pay its foreign debt. If lenders suspect that deficit countries have consumed the resources acquired by borrowing, they may charge more for renewing loans from the consuming countries. As the costs of outstanding loans increase, the burden on the borrowing countries rises. In the limit, as we will see, the burden is regarded as unsustainable. The risk premium for countries—just as for individuals—rises, and trouble follows.

This kind of crisis can be seen in the events in the autumn of 2008, when Lehman Brothers failed. As we discuss further in Chapter 4, private debt in the United States had been subdivided into tranches that were supposed to represent different degrees of risk. When calculating these risks, no one anticipated the Lehman failure. When it did fail, all previous risk calculations were called into question. Because the accepted value of many assets depended on these calculations, investors instantly became suspicious of asset values. There were many sellers and few buyers of what became toxic assets.

Before the failure, only the bottom tranches with high risks were known as toxic assets. The effect of the Lehman failure was to make all assets look alike; they were all toxic waste. With sellers far outnumbering buyers, prices fell precipitately in a kind of fire sale. Markets became deranged when appro-

priate buyers could not be found, and asset trading ground to a halt. Only after prices had crashed and investors had recovered from their initial panic did markets regain their normal relations—albeit at far different prices than before the Lehman bankruptcy.

Europe flirted with the same kind of panic in the autumn of 2011. It all started with a realization that the Greek national debt was larger than had been thought and larger than Greece could easily pay. As in the United States in the summer of 2008, nothing was done in Europe to allay investor fears until much later. Investors normally distinguish among European countries, but the monetary union led them to believe that many countries are like Greece. Greece did not go bankrupt, and there was no cataclysmic signal like the Lehman bankruptcy, but panic began to spread. More investors wanted to sell the bonds of European countries than to buy them, and their prices fell.

Fortunately, conditions did not develop into a fire sale. In early 2012, the European Central Bank offered to lend euros to banks using national bonds as collateral. To investors, this policy looked like the proverbial bag of gold in a bank window, a signal that the bonds would not default. Prices rose, and interest rates fell. Calm returned to the euro region. But the problems that had induced the panic have not been resolved. Greece still has an unsupportable debt, and other countries have large debts as well. The complexities of this story are described in Chapter 5; here we assert that abundant debts—domestic and foreign—are signals of world disorder, just as extensive unemployment is.

Now that we have seen both indicators of our current distress—unemployment and excess debts—we might ask whether there is any relationship between them. The answer of course is yes. Unhappily, they are cousins rather than siblings, so it will take a little explanation to show how they are related. We need to take you into the kitchen to show how the world economy is made. Like all kitchens, this intellectual one is filled with bright lights, sharp corners, and hot items. We implore you to bear with these possible discomforts long enough to get a first look at how the separate episodes to follow fit together into a unified narrative.

Unemployment and financial crises are both signs of macroeconomic dysfunction. They are the results of breakdowns in economies, and they are not normally considered in economists' models of well-functioning economies. To understand how they are related, we need to consult an older train

of economic thinking that specialized in the analysis of these breakdowns. This body of thought is typically called Keynesian, because it answers questions Keynes raised in the course of the previous end-of-regime crisis, the Great Depression. The important role of this theory is to suggest policies when normal conditions are absent. (See the final section of the Appendix for more details.)

Start with unemployment. We consider a country with full employment and stable prices to be in equilibrium. We call this *internal* equilibrium because it is concerned with conditions inside a country. If the demand for labor is less than its supply, then there will be people who cannot find jobs. Unemployment typically is measured by the number of workers actively seeking work who cannot find it. When unemployment is high, we speak of involuntary unemployment to distinguish workers looking for jobs from those who are not—whether they are retired, discouraged, or simply happy to be idle.

If the demand for workers is larger than the supply, then we expect employers to raise wages to attract workers out of other jobs and to compete actively with other employers to get workers. Wages will rise under these conditions, and prices will follow, resulting in inflation. Just as unemployment is a measure of disequilibrium on one side, so inflation is an indication of disequilibrium on the other. Taking our cue from the labor market, we see the former gap as having insufficient demand and the latter gap as having excess demand.

When many countries have insufficient demand, we speak of a world depression. This does not mean that all countries suffer to the same extent—some may even prosper. But many countries suffered in the Great Depression of the 1930s, even some we do not regard as active participants in the world economy. By contrast, worldwide inflations have also occurred, particularly in the second half of the twentieth century, which affected all countries as well. Small countries can have their own difficulties, but large countries affect others whether they intend to or not.

The causes of debts appear to be quite different from those which cause demand to be too high or too low, but they are really rather similar. The debts that interest us here are national ones, that is, debts that one country owes another. These debts are distinguished from private debts of households and business firms and public debts of governments. These various kinds of debt are all important, and we will discuss the relations among them later, but foreign debts are the focus of interest here.

A country falls into debt with other countries if the value of its exports is smaller than that of its imports. In balanced trade, a country pays for its imports by its exports. If the exports fall short, there has to be another way to pay for some of the imports. One option—the most popular one in the modern world—is to export paper IOUs. These IOUs are foreign debts, and we will refer to them now by this more formal term. In the short run, every country would prefer to pay for imports with debts, because debts are so easily produced. In the long run, however, these debts will have to be paid, and most countries curb their appetites to limit the magnitude of their outstanding debt.

Who buys these debts? By symmetry, countries whose exports are larger than their imports trade some of their exports for debt from other countries. As these surplus countries accumulate foreign debts, they accumulate foreign assets. In the short run, countries may want to increase their exports to promote economic growth; they may value growth more than they value current consumption, composed partly of imports. In the long run, these countries have to decide what they are going to do with all their foreign assets. The British exported goods to their empire and accumulated massive foreign assets in the nineteenth century, as we discuss in Chapter 2, and then spent all these assets fighting the First World War. That history, however, is unusual; the more general case is when countries promoting economic growth through exports find themselves with lots of foreign assets and nothing to do with them. We discuss this problem further in Chapters 5 and 6.

We define a country to be in *external* balance when it does not increase or decrease its foreign debts—its IOUs to foreign countries—faster than its national income is growing. We speak of a country as being in deficit when it is acquiring more foreign debt and in surplus when it is reducing its foreign debt or increasing its foreign assets. Countries for which the ratio of foreign debt or assets to national income stays constant are thus considered to be in external balance.

A simple example may make this concept clear. Under the gold standard that was the framework for international trade and investment before the First World War, deficit countries paid for excess imports with gold. In other words, countries with abundant gold reserves could afford to import more goods and services than they could pay for with their exports. But countries that used up their gold reserves this way could find themselves in trouble. If they ran out of gold, or if investors thought they might soon do so, investors

might try to sell their currency for gold to get what they could before the country ran out of gold. This sounds like a traditional banking panic, and currency crises share the dynamics of bank panics. During a currency crisis, countries might have to abandon the gold standard in one way or another, as described in Chapter 2.

Adam Smith's friend David Hume explained in his essay "Of the Balance of Trade" how a country on a specie standard maintained external balance (Hume referred to coins of gold and silver collectively as specie). In a very modern form of economic thinking, Hume stated his "general argument":

Suppose four fifths of all the money in Britain to be annihilated in one night, and the nation reduced to the same conditions with regard to specie as in the reigns of Harrys and Edwards; what would be the consequence? Must not the price of all labor and commodities sink in proportion, and every thing be sold as cheap as they were in those ages? What nation could then dispute with us in any foreign market or . . . sell manufactures at the same price which to us would afford sufficient profit? In how little time, therefore, must this bring back the money which we had lost and raise us to the level of all the neighboring nations? Where, after we have arrived, we immediately lose the advantages of the cheapness of labor and commodities, and the farther flowing in of money is stopped by our fullness and repletion.

Again, suppose that all the money in Britain were multiplied fivefold in a night, must not the contrary effect follow? . . . Now 'tis evident that the same causes which would correct these exorbitant inequalities, were they to happen miraculously, must prevent their happening in the common course of nature and must for ever in all neighboring nations preserve money nearly proportioned to the art and industry of each nation.⁴

We can reframe Hume's model in a more modern guise. Assume that a country in external balance suffers a decline in its exports, so that they no longer pay for its imports. Needing something to use instead, it uses its specie (that is, gold and silver coins) to pay for its imports. Because the domestic money supply consists largely of coins, this international transaction decreases the domestic money stock. As there is less money, people do not have enough cash to pay for all the goods and services being produced at the old prices. Prices have to fall to adjust to the lower monetary stock. Even though the exchange rate with other countries, set by the amount of gold

and silver in their specie, has not changed, what economists call the *real* exchange rate has changed. The prices of domestic goods are lower relative to foreign goods than they were before, not because the exchange rate has changed but because prices have changed. (The real exchange rate measures the exchange rate after allowing for any change in prices.) Exports are cheaper for potential foreign buyers, and imports are more expensive for potential domestic consumers. Exports rise; imports fall. The balance between exports and imports can be regained, and the outward flow of specie halted. This simple process is known as the price-specie-flow model.

Although this model is very simple, its insights stimulated economists and governed policies for two and a half centuries, until the early twentieth century. It was elaborated by many people to take account of changed circumstances, leaving the main insights intact. We discuss the mechanism by which prices are raised or lowered in the presence of financial assets and interest rates in later chapters. But before we get to its modern analogues and extensions, we can reveal a few of this model's insights here.

The first insight is that the price-specie-flow model connects internal and external balances. The beginning of the process can be described as an external imbalance, because it is the result of a change of exports without a corresponding change in imports. The outcome of the process, however, can be described as an internal imbalance, because the reduction of the money stock results in deflation. The connection between external and internal imbalances is one of the central topics of this book. In fact, the point of our analysis is precisely to explain the connections between external and internal balances. Some analysts focus on the need for internal balance within isolated economies; others consider the need to balance international trade: they consider external balance. We contend that this separation of analyses prevents economists and others from understanding the true complexity of the world's problems today. Keynes spent the 1930s trying to understand these linkages in the midst of the Great Depression. He did not understand them in 1930, but he had a clear grasp of them a decade later.

The second insight is tied up in an important asymmetry in the discussion so far. We have measured internal imbalances by inflation on the one hand and unemployment on the other. But in Hume's narrative, the imbalance in the price-specie-flow mechanism caused deflation of prices instead of causing unemployment. When considering internal imbalance, why did we distinguish between inflation and unemployment (our asymmetry),

whereas Hume thought symmetrically, with a rise in demand causing inflation and a fall in demand causing deflation? What happened since 1750 to destroy Hume's symmetry? The answer is that the Industrial Revolution came between his time and ours. Hume lived in an agricultural society, while we live in an industrial or even a postindustrial one. Agricultural prices and wages move up and down in responses to changes in the supply of and demand for workers, crops, and animals. But industrial prices move upward far more easily than downward. The problem is that it is hard to lower wages in industrial economies.

This transformation to an asymmetric response came about halfway between Hume's time and ours, in the late nineteenth century. The growth of large firms (described in Chapter 4) led to large concentrations of workers in factories and cities. Industrial workers resist wage cuts, although they cheerfully accept wage increases. This asymmetry was true before unions became strong and continues unabated even where unions have declined. It certainly was present in the Great Depression, and economists and policy-makers alike dealt with its consequences at that time.

The price-specie-flow model can be easily altered to take account of this change. When exports fall relative to imports in this more modern version, employment falls. The decline in the money stock leads—by mechanisms we detail later—to a reduction in the quantity of work instead of a reduction in the pay for work. Unemployment instead of deflation is the path to the recovery of external balance. Economists today refer to this asymmetry as Keynesian because Keynes emphasized it in his work, but he described it as an empirical fact well before he wrote his most famous book, *The General Theory*, in 1936. When Keynes wrote *A Treatise on Money*, published in 1930, he assumed full employment and appealed to the symmetrical form of the price-specie-flow mechanism in his analysis. It was precisely this disconnect between his evidence and his theory that produced Keynes' problems before the Macmillan Committee in 1930 and led him to write *The General Theory* thereafter. Having straightened out his assumptions to describe more accurately the twentieth-century world in which he lived, Keynes could use his new understanding to return to questions of international balance he originally had raised in *The Economic Consequences of the Peace*, published in 1919, just after the First World War. This intellectual journey and its lessons for today are the topics of Chapter 3, although, as we will see, they were not fully understood until presented in a book by James Meade in 1951 and in a

paper by Trevor Swan in 1955. These lessons are explained more fully with the aid of what is called the Swan diagram in the Appendix.⁵

We begin our journey to this understanding with an account of how the world got into the Great Depression, a mess even worse than the current one. Worldwide imbalances prevailed both internally and externally. It took a great set of shocks to shatter the world economy in this way. As we show in Chapter 2, these shocks, and their outcome in the form of the Great Depression, can fairly be called an end-of-regime crisis. We recall that crisis because of the obvious parallels with the problems we now face. That crisis also provides the setting for our view of Keynes' intellectual odyssey (recounted in Chapter 3) that foreshadows our own in the final chapters of this book. The path to the end-of-regime crisis we are now experiencing is described in Chapter 4. We chronicle recent events and ask how this history can inform decisions now in Chapters 5 and 6.

We are hardly the first to survey the damage from the Global Financial Crisis of 2008. Reinhart and Rogoff surveyed the data for many crises under the ironic title *This Time Is Different*. Their point is that all crises are alike; this time is never different. They document this similarity largely by calculating averages of various measures related to crises. They infer from their work that it normally takes years to recover from a financial crash—a salutary warning. Their work carries the implication that there is nothing to do but wait. However, averages cannot by themselves indicate whether crashes can be separated usefully into different types. In fact, Reinhart and Rogoff broke their own rules and distinguished between domestic banking crises and currency crises. But is this the proper taxonomy? And might not different kinds of crises have different sorts of outcomes and call for different policy responses?⁶

Koo divided crashes into two kinds in his modestly titled book *The Holy Grail of Macroeconomics*. Ordinary recessions have little effect on the value of assets, but balance-sheet recessions are big enough to affect asset values, as described earlier. In what Koo calls balance-sheet recessions, banks and nonfinancial corporations restrict spending in the recovery as they deleverage. In other words, there are big and small recessions, depending on the effect of a crash on asset values. This is a useful reminder that asset values are important, but it does not provide a way to tell how much change in asset values is needed to cross the line into a balance-sheet recession.⁷

We also argue that there are two kinds of financial crises. Almost all of them are what we think of as ordinary crises, where the work of Reinhart

and Rogoff is invaluable. But there are occasional crises that throw the world economy into disorder. We argue in this book that these are end-of-regime crises, ones that occur infrequently and only when the regime that governs the world economy is unable to provide the needed leadership. We argue that the industrial world economy is stable when there is a hegemonic power. In fact, we define a *hegemon* as an economically powerful country that can promote cooperation among nations. Hegemons endure for generations, and we speak of Britain as the hegemon of the nineteenth century and the United States as that of the twentieth. Changing hegemons is difficult: a new hegemon often takes a while to emerge after the old one declines. The result is a major recession—often classified as a depression—that marks (in retrospect) the end of a hegemonic power. The Great Depression was one end-of-regime recession; the current world crisis is another.

Britain ruled the waves in the nineteenth century. It set an example for all nations in the midcentury Crystal Palace exhibition of manufactures, and it promoted industrialization in many countries. The Bank of England was the custodian of the gold standard in the late nineteenth century, and adherence to the gold standard became a goal of all nations active in the growing international trade stimulated by industrialization and cheap ocean transport. Keynes referred to London as the conductor of the international orchestra. After the First World War, however, Britain lost its ability to foster cooperation among nations that is the hallmark of a hegemon. Relations among the warring nations were poisonous after the war, and Britain was either unable or unwilling to promote a cooperative world order. Britain was powerless to affect the punitive French occupation of the Ruhr in the early 1920s and to convince countries outside the British Empire to go off gold in the early 1930s. Without a conductor, the international orchestra descended into cacophony, and the world economy collapsed into the Great Depression.⁸

The United States was hegemonic in the twentieth century. Its late entry into both world wars made the difference between stalemate (or worse) and Allied victory. Its postwar leadership promoted cooperation among the warring parties that contrasted sharply with the aftermath of the First World War. Its economic prowess had no rival and became the standard against which all other economies were measured. Its educational accomplishments set the standard to which other countries aspired. But, as with Britain nearly a century earlier, American uniqueness diminished as other nations progressed toward the end of the twentieth century. After the boom and bust of

the first decade of the current century, the United States found itself demoralized and in debt as its financial leadership collapsed. In the international discussions that now are considering policies to alleviate the problems described earlier, the United States is hardly the conductor—and may not even be a leading orchestra member. There is no hegemonic power around today to lead the world economy toward prosperity and balance.

We therefore begin our narrative with an account of the British century: the period when Britain was a world hegemonic power. Britain lost this status in the turmoil of the early twentieth century, and the Great Depression was the result. This is the story of Chapter 2, which sets the stage for all that follows. In Chapter 3, we trace Keynes' efforts to understand this process as it unfolded. We argue that he was concerned with the interaction of internal and external balances from *The Economic Consequences of the Peace* in 1919 to his work at Bretton Woods in the early 1940s. Keynes' first popular book showed his intuitive understanding of the issues, but he could not convince others of his approach solely by intuition. It took the combined efforts of Keynes and many others to provide a convincing version of his conclusions about the Versailles Treaty ending the First World War, and to see how to apply this after the Second World War.

We continue the story through the period of American hegemony in Chapter 4. The American century began before the Great Depression and continued for the rest of the twentieth century. The United States developed and changed in this time, recently bringing its hegemonic status into question. Like the Great Depression, the current economic distress has exposed the limits of the assumed hegemon. We analyze current imbalances in EMU—the euro area—in Chapter 5. And we expand this story to the imbalances between China and the United States and then to those of the world as a whole in Chapter 6. The interaction between internal and external balances that we introduced here and develop further in Chapters 5 and 6 guides our analysis.

The world now faces choices that will determine how the imbalances analyzed in these chapters can be corrected. If a cooperative solution can be found, then the task will be feasible, although it will take several years to unwind all the positions that have developed over the past decade. This kind of cooperation will be encouraged if a hegemon emerges to stimulate and guide it. If nations cannot cooperate, then the world may be subject to the perils of a noncooperative default that will be distinctly unpleasant. We

describe the choice of cooperation in terms of the Prisoner's Dilemma game, explained in the Appendix. It is hard to predict how bad the situation will become, but the example of the Great Depression as described in Chapter 2 is hardly encouraging.

We argue throughout that history provides a useful guide for current decisions. It seems as if Marx was right: history repeats itself, first as tragedy, then as farce. We are not yet in another Great Depression, largely because of safety nets that have been constructed since the 1930s. However, the collective memory appears to have forgotten the lessons of the previous end-of-regime crisis. And policies at the moment seem to risk allowing the world to stumble into another Great Depression, rather than resolutely leading us away from it. We hope that our book will help people to remember the relevant history and use it to put the world economy back together again.⁹