

## 1.4: Business Cycles- Economic Ups and Downs

### Learning Objectives

1. Understand the distinctions between an economic recession and a depression.
2. Compare and contrast the current recession in the United States with previous economic downturns.
3. Recognize why the economic downturn in the 1930s is called the Great Depression.

In 2009 the world was in the midst of the largest economic downturn since the early 1980s. Economic production was falling and unemployment rising. International trade fell substantially everywhere in the world, while investment both domestically and internationally dried up.

The source of these problems was the bursting of a real estate bubble. Bubbles are fairly common in both real estate and stock markets. A bubble is described as a steady and persistent increase in prices in a market, in this case, in the real estate markets in the United States and abroad. When bubbles are developing, many market observers argue that the prices are reflective of true values despite a sharp and unexpected increase. These justifications fool many people into buying the products in the hope that the prices will continue to rise and generate a profit.

When the bubble bursts, the demand driving the price increases ceases and a large number of participants begin to sell off their product to realize their profit. When these occur, prices quickly plummet. The dramatic drop in real estate prices in the United States in 2007 and 2008 left many financial institutions near bankruptcy. These financial market instabilities finally spilled over into the **real sector** (i.e., the sector where goods and services are produced), contributing to a world recession. As the current economic crisis unfolds, there have been many suggestions about similarities between this recession and the Great Depression in the 1930s. Indeed, it is common for people to say that this is the biggest economic downturn since the Great Depression. But is it?

To understand whether it is or not, it is useful to look at the kind of data used to measure recessions or depressions and to compare what has happened recently with what happened in the past. First, here are some definitions.

An **economic recession** refers to a decline in a country's measured real gross domestic product (GDP) over a period usually coupled with an increasing aggregate unemployment rate. In other words, it refers to a decline in economic productive activity. How much of a decline is necessary before observers will begin to call it a recession is almost always arguable, although there are a few guidelines one can follow.

In the United States, it is typical to define a recession as two successive quarters of negative real GDP growth. This definition dates to the 1970s and is little more than a rule of thumb, but it is one that has become widely applied. A more official way to define a recession is to accept the pronouncements of the National Bureau of Economic Research (NBER). This group of professional economists looks at more factors than just GDP growth rates and will also make judgments about when a recession has begun and when one has ended. According to the NBER, the current recession began in December 2007 in the United States. However, it did not proclaim that until December 2008. Although the U.S. economy contracted in the fourth quarter of 2007, it grew in the first two quarters of 2008, meaning that it did not fulfill the two successive quarters rule. That wasn't satisfied until the last two quarters of 2008 both recorded a GDP contraction. As of January 2010, the U.S. economy continues in a recession according to the NBER. See the National Bureau of Economic Research, <http://www.nber.org/cycles.html>.

A very severe recession is referred to as a depression. How severe a recession has to be to be called a depression is also a matter of judgment. In fact in this regard there are no common rules of thumb or NBER pronouncements. Some recent suggestions in the press are that a depression is when output contracts by more than 10 percent or the recession lasts for more than two years. Based on the second definition and using NBER records dating the length of recessions, the United States experienced depressions from 1865 to 1867, 1873 to 1879, 1882 to 1885, 1910 to 1912, and 1929 to 1933. Using this definition, the current recession could be judged a depression if NBER dates the end of the contraction to a month after December 2009.

The opposite of a recession is an economic expansion or economic boom. Indeed, the NBER measures not only the contractions but the expansions as well because its primary purpose is to identify the U.S. economy's peaks and troughs (i.e., high points and low points). When moving from a peak to a trough the economy is in a recession, but when moving from a trough to a peak it is in an expansion or boom. The term used to describe all of these ups and downs over time is the **business cycle**.

The business cycle has been a feature of economies since economic activity has been measured. The NBER identifies recessions going back to the 1800s with the earliest listed in 1854. Overall, the NBER has classified thirty-four recessions since 1854 with an

average duration of seventeen months. The longest recession was sixty-five months from 1873 to 1879, a contraction notable enough to be called the Great Depression until another one came along to usurp it in the 1930s. On the upside, the average economic expansion in the United States during this period lasted thirty-eight months, with the longest being 120 months from 1991 to 2001. Interestingly, since 1982 the United States has experienced three of its longest expansions segmented only by relatively mild recessions in 1991 and 2001. This had led some observers to proclaim, “The business cycle is dead.” Of course, that was until we headed into the current crisis. (See here for a complete listing of NBER recessions: <http://www.nber.org/cycles/cyclesmain.html>.)

## The Recession of 2008–2009

Next, let’s take a look at how the GDP growth figures look recently and see how they compare with previous periods. First, growth rates refer to the percentage change in real GDP, which means that the effects of inflation have been eliminated. The rates are almost always reported in annual terms (meaning the growth rate over a year) even when the period is defined as one quarter. In the United States and most other countries, GDP growth rates are reported every quarter, and that rate represents how much GDP would grow during a year if the rate of increase proceeded at the same pace as the growth during that quarter. Alternatively, annual growth rates can be reported as the percentage change in real GDP from the beginning to the end of the calendar year (January 1 to December 31).

Table 1.6 presents the quarterly real GDP growth rates from the beginning of 2007 to the end of 2009 and the corresponding unemployment rate that existed during the middle month of each quarter. Note first that in 2007, GDP growth was a respectable 2 to 3 percent and unemployment was below 5 percent, signs of a healthy economy. However, by the first quarter in 2008, GDP became negative although unemployment remained low. Growth rebounded to positive territory in the second quarter of 2008 while at the same time unemployment began to rise rapidly. At this time, there was great confusion about whether the U.S. economy was stalling or whether it was experiencing a temporary slowdown. By late 2008, though, speculation about an impending recession came to an end. Three successive quarters of significant GDP decline occurred between the second quarter of 2008 and the end of the first quarter in 2009, while the unemployment rate began to skyrocket. By the middle of 2009, the decline of GDP subsided and reversed to positive territory by the third quarter. However, the unemployment rate continued to rise, though at a slower pace. What happens next is anyone’s guess, but to get a sense of the severity of this recession it is worth analyzing at least two past recessions: that of 1981 to 1982 and the two that occurred in the 1930s, which together are known as the Great Depression.

Figure 1.4.1: Table 1.6 U.S. Real GDP Growth and Unemployment Rate, 2007–2009. Sources: U.S. Bureau of Economic and Analysis and U.S. Department of Labor.

Year. Quarter	Growth Rate (%)	Unemployment Rate (%)
2007.1	1.2	4.5
2007.2	3.2	4.5
2007.3	3.6	4.7
2007.4	2.1	4.7
2008.1	−0.7	4.8
2008.2	1.5	5.6
2008.3	−2.7	6.2
2008.4	−5.4	6.8
2009.1	−6.4	8.1
2009.2	−0.7	9.4
2009.3	2.2	9.7
2009.4	—	10.0

## The Recession of 1980–1982

At a glance the current recession most resembles the recessionary period from 1980 to 1982. The NBER declared two recessions during that period; the first lasting from January to July 1980 and the second lasting from July 1981 to November 1982. As can be seen in Table 1.7, GDP growth moved like a roller coaster ride. Coming off a sluggish period of **stagflation** in the mid-1970s, unemployment began somewhat higher at around 6 percent, while growth in 1979 (not shown) was less than 1 percent in several quarters. Then in the second quarter of 1980, GDP plummeted by almost 8 percent, which is much more severe than anything in the current recession. Note that the largest quarterly decrease in the U.S. GDP in the post–World War II era was –10.4 percent in the first quarter of 1958. In the same quarter, unemployment soared, rising over a percentage point in just three months. However, this contraction was short-lived since the GDP fell only another 0.7 percent in the third quarter and then rebounded with substantial growth in the fourth quarter of 1980 and the first quarter of 1981. Notice that despite the very rapid increase in the GDP, unemployment hardly budged downward, remaining stubbornly fixed around 7.5 percent. The rapid expansion was short-lived, as the GDP tumbled again by over 3 percent in the second quarter of 1981 only to rise again by a healthy 5 percent in the third quarter. But once again, the economy plunged back into recession with substantial declines of 5 percent and over 6 percent for two successive quarters in the GDP in late 1981 and early 1982. Meanwhile, from mid-1981 until after the real rebound began in 1983, the unemployment rate continued to rise, reaching a peak of 10.8 percent in late 1982, the highest unemployment rate in the post–World War II period.

Figure 1.4.2: Table 1.7 U.S. Real GDP Growth and Unemployment Rate, 1980–1983. Sources: U.S. Bureau of Economics and Analysis (<http://www.bea.gov>) and U.S. Department of Labor (<http://www.dol.gov>).

Year.Quarter	Growth Rate (%)	Unemployment Rate (%)
1980.1	+1.3	6.3
1980.2	–7.9	7.5
1980.3	–0.7	7.7
1980.4	+7.6	7.5
1981.1	+8.6	7.4
1981.2	–3.2	7.5
1981.3	+4.9	7.4
1981.4	–4.9	8.3
1982.1	–6.4	8.9
1982.2	+2.2	9.4
1982.3	–1.5	9.8
1982.4	+0.3	10.8
1983.1	+5.1	10.4
1983.2	+9.3	10.1
1983.3	+8.1	9.5
1983.4	+8.5	8.5

If indeed the current recession turns out like the 1980 to 1983 episode, we might expect to see substantial swings in the GDP growth rates in future quarters in the United States. The ups and downs are analogous to a bicycle smoothly traversing along a smooth road when the rider suddenly hits a large obstruction. The obstruction jolts the bike to one side while the rider compensates to pull the bike upright. However, the compensation is often too much, and the bike swings rapidly to the opposite side. This too inspires an exaggerated response that pushes the bike again too quickly to the original side. In time, the rider regains his balance and directs the bike along a smooth trajectory. That is what we see in Table 1.7 of the last quarters in 1983, when rapid growth becomes persistent and unemployment finally begins to fall.

The other lesson from this comparison is to note how sluggishly unemployment seems to respond to a growing economy. In late 1980 and early 1981, unemployment didn't budge despite the rapid revival of economic growth. In 1983, it took almost a full year of very rapid GDP growth before the unemployment rate began to fall substantially. This slow response is why the unemployment rate is often called a lagging indicator of a recession; it responds only after the recession has already abated.

## The Great Depression

During the current recession there have been many references to the Great Depression of the 1930s. One remark often heard is that this is the worst recession since the Great Depression. As we can see in Table 1.7, this is not quite accurate since the recession of the early 1980s can easily be said to have been worse than the current one...at least so far.

It is worth comparing numbers between the current period and the Depression years if only to learn how bad things really were during the 1930s. The Great Depression was a time that transformed attitudes and opinions around the world and can surely be credited with having established the necessary preconditions for the Second World War.

So let's take a look at how bad it really was. Once again, we'll consider the U.S. experience largely because the data are more readily available. However, it is worth remembering that all three of the economic downturns described here are notable in that they were worldwide in scope.

First of all, there is no quarterly data available for the 1930s as quarterly data in the United States first appeared in 1947. Indeed, there was no formal organized collection of data in the 1930s for a variable such as GDP. Thus the numbers presented by the U.S. Bureau of Economic and Analysis (BEA) were constructed by piecing together available data.

A second thing to realize is that annual GDP growth rates tend to have much less variance than quarterly data. In other words, the highs are not as high and the lows not as low. This is because the annual data are averaging the growth rates over the four quarters. Also, sometimes economic downturns occur at the end of one year and the beginning of the next so that the calendar year growth may still be positive in both years. For example in 2008, even though GDP growth was negative in three of four quarters, the annual GDP growth that year somehow registered a +0.4 percent. Also in 1980, despite an almost 8 percent GDP drop in the second quarter, the annual GDP growth that year was -0.3 percent. The same is true for 1982, which registered two quarters of negative GDP growth at -6.4 percent and -1.5 percent but still the GDP fell annually at only -1.9 percent.

With this caveat in mind, the U.S. GDP growth rates for the 1930s are astounding. From 1930 to 1933, the United States registered annual growth rates of -8.6 percent, -6.5 percent, -13.1 percent, and -1.3 percent. The unemployment rate, which is estimated to have been around 3 percent in the 1920s, rose quickly in 1930 to 8.9 percent and continued to rise rapidly to a height of almost 25 percent in 1933. Although growth returned with vigor in 1934 and for another four years, the unemployment rate remained high and only slowly fell to 14.3 percent by 1937.

Figure 1.4.3: Table 1.8 U.S. Real GDP Growth and Unemployment Rate, 1930–1940. Sources: U.S. Bureau of Economics and Analysis and U.S. Department of Labor.

Year	Growth Rate (%)	Unemployment Rate (%)
1930	-8.6	8.9
1931	-6.5	15.9
1932	-13.1	23.6
1933	-1.3	24.9
1934	+10.9	21.7
1935	+8.9	20.1
1936	+13.0	17.0
1937	+5.1	14.3
1938	-3.4	19.0
1939	+8.1	17.2
1940	+8.8	14.6

The NBER dated the first part of the Depression as having started in August 1929 and ending in March 1933. But a second wave came, another recession beginning in May 1937 and ending in June 1938. This caused GDP to fall by another 3.4 percent in 1938 while unemployment rose back above 15 percent for another two years.

The Great Depression is commonly used to refer to the economic crisis (or crises) that persisted for the entire decade of the 1930s, only truly coming to an end at the start of World War II. Even then it is worth mentioning that although GDP began to grow rapidly during World War II, with GDP growth from 1941 to 1943 at 17.1 percent, 18.5 percent, and 16.4 percent, respectively, and with U.S. unemployment falling to 1.2 percent in 1944, these data mask the fact that most of the extra production was for bullets and bombs and much of the most able part of the workforce was engaged in battle in the Atlantic and Pacific war theaters. In other words, the movement out of the Great Depression was associated with a national emergency rather than a more secure and rising standard of living.

Although the data presented only cover the United States, the Great Depression was a worldwide phenomenon. Without digging too deeply into the data or just by taking a quick look at Wikipedia's article on the Great Depression, it reveals the following: unemployment in 1932 peaked at 29 percent in Australia, 27 percent in Canada, and 30 percent in Germany. In some towns with specialized production in the United Kingdom, unemployment rose as high as 70 percent.

Needless to say, the Great Depression was indeed "great" in the sense that it was the worst economic downturn the world experienced in the twentieth century. In comparison, the current recession, which is coming to be known as the Great Recession, comes nowhere close to the severity of the Great Depression...at least for the moment (as of January 2010). A more accurate description of the current recession is that it is the worst since the 1980s in the United States. However, we should always be mindful of a second downturn as was seen in the late 1930s. Even after things begin to improve, economies can suffer secondary collapses. Hopefully, demands will soon rebound, production will sluggishly increase, and unemployment rates will begin to fall around the world. We will soon see.

#### Key Takeaways

- The business cycle refers to the cyclical pattern of economic expansions and contractions. Business cycles have been a persistent occurrence in all modern economies.
- The current recession, sometimes called the Great Recession, is comparable in GDP decline and unemployment increases in the United States to the recessions in the early 1980s.
- The Great Depression of the 1930s displayed much greater decreases in GDP, showed much larger increases in unemployment, and lasted for a longer period than any economic downturn in the United States since then.
- The largest annual decrease in the U.S. GDP during the Great Depression was -13.1 percent while the highest unemployment rate was 24.9 percent.
- The largest quarterly decrease in the U.S. GDP during the current recession was -6.4 percent while the highest unemployment rate was 10.1 percent.
- The largest quarterly decrease in the U.S. GDP since World War II was -10.4 percent in the first quarter of 1958, while the highest unemployment rate was 10.8 percent in 1982.
- Of the thirty-four U.S. recessions since 1854 classified by the NBER, the longest was sixty-five months in the 1870s, whereas the average length was seventeen months.
- Of all the U.S. expansions since 1854 classified by the NBER, the longest was 120 months in the 1990s whereas the average length was thirty-eight months.

#### Exercise

1. **Jeopardy Questions.** As in the popular television game show, you are given an answer to a question and you must respond with the question. For example, if the answer is "a tax on imports," then the correct question is "What is a tariff?"
  - Approximately the worst U.S. quarterly economic growth performance between 2007 and 2009.
  - Approximately the worst U.S. quarterly economic growth performance between 1980 and 1983.
  - Approximately the worst U.S. annual economic growth performance between 1930 and 1940.
  - Approximately the best U.S. annual economic growth performance between 1930 and 1940.
  - Approximately the period of time generally known as the Great Depression.
  - Approximately the highest unemployment rate in the U.S. during the Great Depression.
  - Approximately the highest unemployment rate in Germany during the Great Depression.

- Approximately the best U.S. annual economic growth performance in the midst of World War II.
- The longest economic recession (in months) in the United States since 1854 as classified by the NBER.
- The longest economic expansion (in months) in the United States since 1854 as classified by the NBER.
- The term used to describe the cyclical pattern of economic expansions followed by economic contractions.

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