

## 1.2: GDP, Unemployment, Inflation, and Government Budget Balances

### Learning Objective

1. Learn current values for several important macroeconomic indicators from a selected set of countries, including GDP, GDP per capita, unemployment rates, inflation rates, national budget balances, and national debts.

When someone reads the business and economics news it is common to see numerous values and figures used to describe the economic situation somewhere. For example, if you read a story about the Philippines you might read that the gross domestic product (GDP) is \$167 billion or that the GDP per person is \$3,500 per person, or that its unemployment rate is 7.1 percent and its inflation rate is now 2.8 percent. You might read that it has a government budget deficit of 3.7 percent of the GDP and a trade deficit of 5.2 percent of the GDP. But what does this all mean? How is someone supposed to interpret and understand whether the numbers indicate something good, bad, or neutral about the country?

One way to make judgments is to compare these numbers with other countries. To this end, the next few sections will present some recent data for a selected set of countries. Although memorizing these numbers is not so important, especially since they will all soon change, it is helpful to have an idea about what the values are for a few countries; or if not that, to know the approximate normal average for a particular variable. Thus it is useful to know that GDP per person ranges from about \$500 per year at the low end to about \$50,000 to \$75,000 per person at the high end. It is also useful to know that unemployment rates are normally less than 10 percent. So when you read that Zimbabwe recently had unemployment of 75 percent, a reader will know how unusually large that is. Once you also recognize that inflation rates are normally less than 10 percent, a rate of 10,000 percent will strike you as extraordinary.

Thus the values for some of these numbers will be helpful to make comparisons across countries today and to make comparisons over time for a particular country. Therefore, it can be very helpful to know the numbers for at least a few countries, or what may be deemed a set of reference countries. The countries in Table 1.1 were selected to provide a cross section of countries at different levels of economic development. Thus the United States, the European Union, and Japan represent the largest economies in the world today. Meanwhile, countries like Brazil, Russia, India, and China are watched so closely today that they have acquired their own acronym: the BRIC countries. Finally, countries like Indonesia, Kenya, Ghana, and Burundi are among the poorest nations of the world. Note that in later tables other countries were substituted for the African countries because data are less difficult to obtain.

### Gross Domestic Product around the World

Macroeconomics is the study of the interrelationships of aggregate economic variables. The most important of these, without question, is a country's **gross domestic product (GDP)**. GDP measures the total value of all goods and services produced by a country during a year. As such, it is a measure of the extent of economic activity in a country or the economic size of a country.

And because the consumption of goods and services is one way to measure an individual's economic well-being, it is easy to calculate the GDP per capita (i.e., per person) to indicate the average well-being of individuals in a country.

Details about how to measure and interpret GDP follow in subsequent chapters, but before doing so, it makes some sense to know a little about how economy size and GDP per person vary across countries around the world. Which are the biggest countries, and which are the smallest? Which countries provide more goods and services, on average, and which produce less? And how wide are the differences between countries? Table 1.1 provides recent information for a selected group of countries. Note that reported numbers are based on purchasing power parity (PPP), which is a better way to make cross-country comparisons and is explained later. A convenient source of the most recent comprehensive data from three sources (the International Monetary Fund [IMF], the World Bank, and the U.S. CIA) of GDP ([http://en.Wikipedia.org/wiki/List\\_of\\_countries\\_by\\_GDP\\_%28PPP%29](http://en.Wikipedia.org/wiki/List_of_countries_by_GDP_%28PPP%29)) and GDP per person ([http://en.Wikipedia.org/wiki/List\\_of\\_countries\\_by\\_GDP\\_%28PPP%29\\_per\\_capita](http://en.Wikipedia.org/wiki/List_of_countries_by_GDP_%28PPP%29_per_capita)) is available at Wikipedia.

Country/Region (Rank)	GDP (Percentage in the World)	GDP per Capita (Rank)
World	68,997 (100)	10,433
European Union (1)	15,247 (22.1)	—
United States (2)	14,265 (20.7)	47,440 (6)

Country/Region (Rank)	GDP (Percentage in the World)	GDP per Capita (Rank)
China (3)	7,916 (11.5)	5,970 (100)
Japan (4)	4,354 (6.3)	34,116 (24)
India (5)	3,288 (4.8)	2,780 (130)
Russia (7)	2,260 (3.3)	15,948 (52)
Brazil (10)	1,981 (2.9)	10,466 (77)
South Korea (14)	1,342 (1.9)	27,692 (33)
Indonesia (17)	908 (1.3)	3,980 (121)
Kenya (82)	60 (nil)	1,712 (148)
Ghana (96)	34 (nil)	1,518 (152)
Burundi (158)	3 (nil)	390 (178)

Figure 1.2.1: Table 1.1 GDP and GDP per Capita (PPP in Billions of Dollars), 2009

Table 1.1 displays several things that are worth knowing. First, note that the United States and European Union each make up about one-fifth of the world economy; together the two are 42 percent. Throw Japan into the mix with the European Union and the United States and together they make up less than one-sixth of the world's population. However, these three developed nations produce almost one-half of the total world production. This is a testament to the high productivity in the developed regions of the world. It is also a testament to the low productivity in much of the rest of the world, where it takes another five billion people to produce the remaining half of the GDP.

The second thing worth recognizing is the wide dispersion of GDPs per capita across countries. The United States ranks sixth in the world at \$47,440 and is surpassed by several small countries like Singapore and Luxembourg and/or those with substantial oil and gas resources such as Brunei, Norway, and Qatar (not shown in Table 1.1). Average GDP per capita in the world is just over \$10,000, and it is just as remarkable how far above the average some countries like the United States, Japan, and South Korea are as it is how far below the average other countries like China, India, Indonesia, and Kenya are. Perhaps most distressing is the situation of some countries like Burundi that has a GDP of only \$370 per person. (Other countries in a similar situation include Zimbabwe, Congo, Liberia, Sierra Leone, Niger, and Afghanistan.)

## Unemployment and Inflation around the World

Two other key macroeconomic variables that are used as an indicator of the health of a national economy are the **unemployment rate** and the **inflation rate**. The unemployment rate measures the percentage of the working population in a country who would like to be working but are currently unemployed. The lower the rate, the healthier the economy and vice versa. The inflation rate measures the annual rate of increase of the consumer price index (CPI). The CPI is a ratio that measures how much a set of goods costs this period relative to the cost of the same set of goods in some initial year. Thus if the CPI registers 107, it would cost \$107 (euros or whatever is the national currency) to buy the goods today, while it would have cost just \$100 to purchase the same goods in the initial period. This represents a 7 percent increase in average prices over the period, and if that period were a year, it would correspond to the annual inflation rate. In general, a relatively moderate inflation rate (about 0–4 percent) is deemed acceptable; however, if inflation is too high it usually contributes to a less effective functioning of an economy. Also, if inflation is negative, it is called deflation, and that can also contribute to an economic slowdown.

Country/Region	Unemployment Rate (%)	Inflation Rate (%)
European Union	9.8 (Oct. 2009)	+0.5 (Nov. 2009)
United States	10.0 (Nov. 2009)	+1.8 (Nov. 2009)
China	9.2 (2008)	+0.6 (Nov. 2009)
Japan	5.1 (Oct. 2009)	–2.5 (Oct. 2009)

Country/Region	Unemployment Rate (%)	Inflation Rate (%)
India	9.1 (2008)	+11.5 (Oct. 2009)
Russia	7.7 (Oct. 2009)	+9.1 (Nov. 2009)
Brazil	7.5 (Oct. 2009)	+4.2 (Nov. 2009)
South Korea	3.5 (Nov. 2009)	+2.4 (Nov. 2009)
Indonesia	8.1 (Feb. 2009)	+2.4 (Oct. 2009)
Spain	19.3 (Oct. 2009)	+0.3 (Nov. 2009)
South Africa	24.5 (Sep. 2009)	+5.8 (Nov. 2009)
Estonia	15.2 (Jul. 2009)	-2.1 (Nov. 2009)

Figure 1.2.2: Table 1.2 Unemployment and Inflation Rates

Source: *Economist*, Weekly Indicators, December 17, 2009.

The unemployment rates and inflation rates in most countries are unusual in the reported period because of the economic crisis that hit the world in 2008. The immediate effect of the crisis was a drop in demand for many goods and services, a contraction in GDP, and the loss of jobs for workers in many industries. In addition, prices were either stable or fell in many instances. When most economies of the world were booming several years earlier, a normal unemployment rate would have been 3 to 5 percent, while a normal inflation rate would stand at about 3 to 6 percent.

As Table 1.2 shows, though, unemployment rates in most countries in 2009 are much higher than that, while inflation rates tend to be lower with several exceptions. In the United States, the unemployment rate has more than doubled, but in the European Union, unemployment was at a higher rate than the United States before the crisis hit, and so it has not risen quite as much. Several standouts in unemployment are Spain and South Africa. These are exceedingly high rates coming very close to the United States unemployment rate of 25 percent reached during the Great Depression in 1933.

India's inflation rate is the highest of the group listed but is not much different from inflation in India the year before of 10.4 percent. Russia's inflation this year has actually fallen from its rate last year of 13.2 percent. Japan and Estonia, two countries in the list, are reporting deflation this year. Japan had inflation of 1.7 percent in the previous year, whereas Estonia's rate had been 8 percent.

## Government Budget Balances around the World

Another factor that is often considered in assessing the health of an economy is the state of the country's government budget. Governments collect tax revenue from individuals and businesses and use that money to finance the purchase of government provided goods and services. Some of the spending is on public goods such as national defense, health care, and police and fire protection. The government also transfers money from those better able to pay to others who are disadvantaged, such as welfare recipients or the elderly under social insurance programs.

Generally, if government were to collect more in tax revenue than it spent on programs and transfers, then it would be running a **government budget surplus** and there would be little cause for concern. However, many governments oftentimes tend to spend and transfer more than they collect in tax revenue. In this case, they run a **government budget deficit** that needs to be paid for or financed in some manner. There are two ways to cover a budget deficit. First, the government can issue Treasury bills and bonds and thus borrow money from the private market; second, the government can sometimes print additional money. If borrowing occurs, the funds become unavailable to finance private investment or consumption, and thus the situation represents a substitution of public spending for private spending. Borrowed funds must also be paid back with accrued interest, which implies that larger future taxes will have to be collected assuming that budget balance or a surplus is eventually achieved.

When governments borrow, they will issue Treasury bonds with varying maturities. Thus some will be paid back in one of two years, but others perhaps not for thirty years. In the meantime, the total outstanding balance of IOUs (i.e., I owe you) that the government must pay back in the future is called the **national debt**. This debt is owed to whoever has purchased the Treasury bonds; for many countries, a substantial amount is purchased by domestic citizens, meaning that the country borrows from itself

and thus must pay back its own citizens in the future. The national debt is often confused with a nation's international indebtedness to the rest of the world, which is known as its international investment position (defined in the next section).

Excessive borrowing by a government can cause economic difficulties. Sometimes private lenders worry that the government may become insolvent (i.e., unable to repay its debts) in the future. In this case, creditors may demand a higher interest rate to compensate for the higher perceived risk. To prevent that risk, governments sometimes revert to the printing of money to reduce borrowing needs. However, excessive money expansion is invariably inflationary and can cause long-term damage to the economy.

In Table 1.3, we present budget balances for a selected set of countries. Each is shown as a percentage of GDP, which gives a more accurate portrayal of the relative size. Although there is no absolute number above which a budget deficit or a national debt is unsustainable, budget deficits greater than 5 percent per year, those that are persistent over a long period, or a national debt greater than 50 percent of GDP tends to raise concerns among investors.

Country/Region	Budget Balance (%)	National Debt (%)
European Union	-6.5	—
United States	-11.9	37.5
China	-3.4	15.6
Japan	-7.7	172.1
India	-8.0	56.4
Russia	-8.0	6.5
Brazil	-3.2	38.8
South Korea	-4.5	24.4
Indonesia	-2.6	29.3
Spain	-10.8	40.7
South Africa	-5.0	31.6
Estonia	-4.0	4.8

Figure 1.2.3: Table 1.3 Budget Balance and National Debt (Percentage of GDP), 2009

Source: *Economist*, Weekly Indicators, December 17, 2009, and the CIA World Factbook.

Note that all the budget balances for this selected set of countries are in deficit. For many countries, the deficits are very large, exceeding 10 percent in the U.S. and Spain. Although deficits for most countries are common, usually they are below 5 percent of the GDP. The reason for the higher deficits now is because most countries have increased their government spending to counteract the economic recession, while at the same time suffering a reduction in tax revenues also because of the recession. Thus budget deficits have ballooned around the world, though to differing degrees.

As budget deficits rise and as GDP falls due to the recession, national debts as a percent of GDP are also on the rise in most countries. In the United States, the national debt is still at a modest 37.5 percent, but recent projections suggest that in a few years it may quickly rise to 60 percent or 70 percent of the GDP. Note also that these figures subtract any debt issued by the government and purchased by another branch of the government. For example, in the United States for the past decade or more, the Social Security system has collected more in payroll taxes than it pays out in benefits. The surplus, known as the Social Security “trust fund,” is good because in the next few decades as the baby boom generation retires, the numbers of Social Security recipients is expected to balloon. But for now the surplus is used to purchase government Treasury bonds. In other words, the Social Security administration lends money to the rest of the government. Those loans currently sum to about 30 percent of GDP or somewhat over \$4 trillion. If we include these loans as a part of the national debt, the United States debt is now, according to the online national debt clock, more than \$12 trillion or about 85 percent of GDP. (This is larger than 37.5 + 30 percent because the debt clock is an estimate of more recent figures and reflects the extremely large government budget deficit run in the previous year.)

Most other countries' debts are on a par with that of the U.S. with two notable exceptions. First, China and Russia's debts are fairly modest at only 15.6 percent and 6.5 percent of GDP, respectively. Second, Japan's national debt is an astounding 172 percent of

GDP. It has arisen because the Japanese government has tried to extricate its economy from an economic funk by spending and borrowing over the past two decades.

### Key Takeaways

- GDP and GDP per capita are two of the most widely tracked indicators of both the size of national economies and an economy's capacity to provide for its citizens.
- In general, we consider an economy more successful if its GDP per capita is high, unemployment rate is low (3–5 percent), inflation rate is low and nonnegative (0–6 percent), government budget deficit is low (less than 5 percent of GDP) or in surplus, and its national debt is low (less than 25 percent).
- The United States, as the largest national economy in the world, is a good reference point for comparing macroeconomic data.
  - The U.S. GDP in 2008 stood at just over \$14 trillion while per capita GDP stood at \$47,000. U.S. GDP made up just over 20 percent of world GDP in 2008.
  - The U.S. unemployment rate was unusually high at 10 percent in November 2009 while its inflation rate was very low at 1.8 percent.
  - The U.S. government budget deficit was at an unusually high level of 11.9 percent of GDP in 2009 while its international indebtedness made it a debtor nation in the amount of 37 percent of its GDP.
- Several noteworthy statistics are presented in this section:
  - Average world GDP per person stands at around \$10,000 per person.
  - The GDP in the U.S. and most developed countries rises as high as \$50,000 per person.
  - The GDP in the poorest countries like Kenya, Ghana, and Burundi is less than \$2,000 per person per year.
  - U.S. unemployment has risen to a very high level of 10 percent; however, in Spain it sits over 19 percent, while in South Africa it is over 24 percent.
  - Inflation is relatively low in most countries but stands at over 9 percent in Russia and over 11 percent in India. In several countries like Japan and Estonia, deflation is occurring.
  - Due to the world recession, budget deficits have grown larger in most countries, reaching almost 12 percent of GDP in the United States.
  - The national debts of countries are also growing larger, and Japan's has grown to over 170 percent of GDP.

### Exercises

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?”
  - The approximate value of world GDP in 2008.
  - The approximate value of EU GDP in 2008.
  - The approximate value of U.S. GDP in 2008.
  - The approximate value of world GDP per capita in 2008.
  - The approximate value of EU GDP per capita in 2008.
  - The approximate value of U.S. GDP per capita in 2008.
  - The approximate value of South Africa's unemployment rate in 2009.
  - The approximate value of India's inflation rate in 2009.
  - The approximate value of the U.S. budget balance as a percentage of its GDP in 2009.
  - The approximate value of Japan's national debt as a percentage of its GDP in 2009.
1. Use the information in Table 1.1 and Table 1.3 to calculate the dollar values of the government budget balance and the national debt for Japan, China, Russia, South Korea, and Indonesia.

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