

ASIA-PACIFIC ECONOMIC UPDATE, 2012

Volume 2

A Lexicon of Selected Economic Concepts and Terms

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Preface

Welcome to the *2012 Asia-Pacific Economic Update (APEU)*. It continues the tradition at the US Pacific Command (USPACOM) of providing a one-stop source for high-quality economic information about the Asia-Pacific region. If readers require economic data and a concise economic analysis of the 36 USPACOM area of responsibility (AOR) economies, then *APEU* Volume 1 meets that requirement. If a reader is uncertain about an economic term or concept, then Volume 2, which is a lexicon, should be consulted. If, on the other hand, a researcher is concerned about a contemporary AOR economic issue, then Volume 3 is likely to satisfy that requirement because it is a reader on important Asia-Pacific region economic issues. Finally, and for the second year running, if readers have questions about the most important economic resource in the region, energy, then they should consult a new and improved version of Volume 4 of the *APEU*, which is an Energy Supplement.

The 2011 *APEU* Energy Supplement provided information about the energy mix, key statistics, and greenhouse gas emissions profiles for AOR economies. The 2012 *APEU* Energy Supplement goes a step further by examining regional energy trends in the Asia-Pacific; focusing on current and expected energy vulnerabilities and corresponding opportunities.

The 2012 *APEU* Energy Supplement was prepared by Jennifer Hendrixson White, a Presidential Management Fellow who spent six months researching Asia-Pacific energy issues at the Department of Defense (DOD), both at USPACOM and at the Office of the Under Secretary of Defense for Policy in the Pentagon. Ms. White brought to the DOD substantial experience in foreign policy from her post as an Officer for Energy and Environment in the Bureau for East Asian and Pacific Affairs at the US Department of State in Washington, D.C.

The key objective of the *APEU* is to provide high-quality information on AOR economies to USPACOM staff and the broader defense and Asia-Pacific policy community to encourage better understanding of economic conditions in this dynamic and important region. We hope that the *APEU* will inform more nuanced, effective policy, and decision-making related to security and energy issues in the Asia-Pacific region.

We invite you to assess the *APEU* and the impact that this information has on your work. Our mandate is to make AOR economic issues user-friendly—a goal which we best achieve with your input. Please send comments about the 2012 *APEU* to the USPACOM Economic Advisor, Dr. Brooks Robinson (Email: Brooks.Robinson@pacom.mil; Telephone: 808.477.9195).

Thanks for the opportunity to serve!

Introduction

Volume 2 of the Asia Pacific Economic Update (APEU) is a lexicon of selected economic concepts and terms that non-economists should find to be useful as they read press pieces, analytical reports, and other documents that cover economic topics. It is not comprehensive, but it is wide-ranging, and it should provide sufficient background to enable readers to know where to turn should a term or concept appear that is not covered in this volume.

This is our fourth effort at producing this volume; the first occurring in 2009. We have updated the volume each year to include more concepts and terms. This year is no exception. We have provided new entries for the following terms: Stagflation, European Union, Eurozone, and LIBOR. In addition, we have provided significant updates to a term that we added last year—Quantitative Easing.

This volume can serve not only as a handy tool of reference, but it can also serve as a study tool. Non-economists who have been able to make it through their academic careers without an economics course may find that knowing the included concepts and terms provide great currency for comprehending the highly economic world in which we live. Therefore, we invite readers to come to this volume often and spend time with it so that they are not caught unawares when reading economic topics or during conversations about economic issues.

In an effort to remain relevant and to meet the needs of our users, we invite readers to inform us if they identify concepts and/or terms that are not included in this volume that they think should be included. We will do our best to ensure that suggestions are reflected in the next version of the volume that is produced.

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Economics

Economics has often been called the “dismal science” because it involves the study of “the distribution of scarce resources.” Because resources are limited, and when the demand for resources exceeds the supply of resources, someone is going to have to do without. Those who are left to do without are in a dismal situation; hence, the characterization of economics as the dismal science.

The study of economics is essentially the study of supply, demand, and price as depicted by the “Marshallian Cross” in Figure 1 below.

Figure 1.—Supply, Demand, Equilibrium, and Price

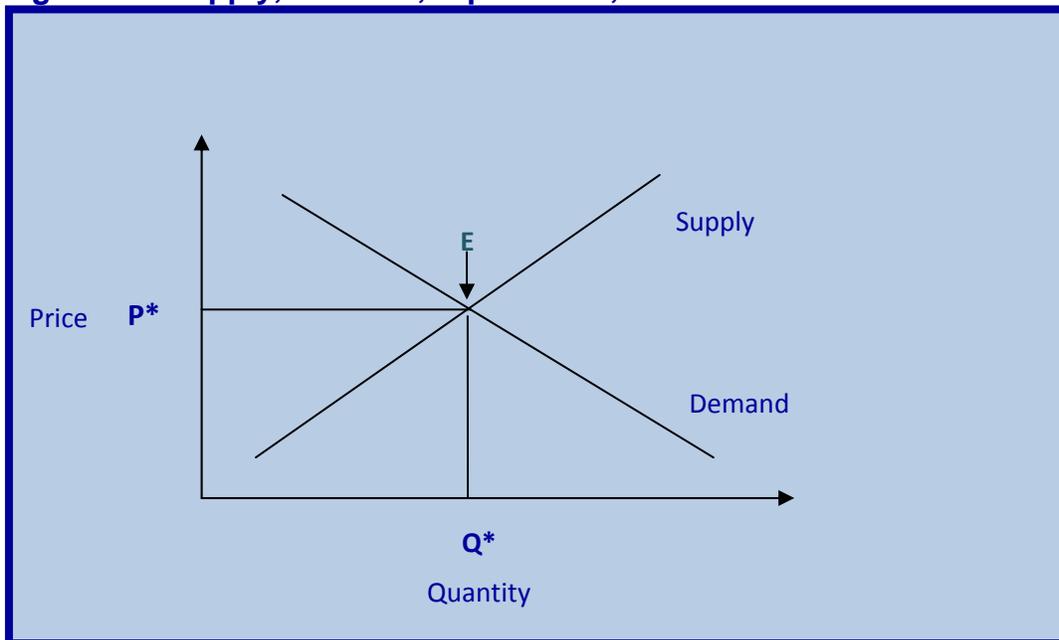


Figure 1 shows a downward sloping demand curve (demand for goods increases while price decreases) and an upward sloping supply curve (supply for goods increases as price increases). Where the supply and demand curves cross is said to be an equilibrium point (point E).¹ The vertical line from this equilibrium point down to the Quantity axis indicates the quantity demanded and supplied at this equilibrium (Q^*). The horizontal line from this equilibrium point over to the Price axis indicates the equilibrium price at which suppliers are willing to supply the good and demanders are willing to pay for the good (P^*).

¹By equilibrium we mean that producers and consumers are in agreement on the quantity of the good that is produced and consumed and on the price at which it is sold and purchased.

While holding the supply curve in place (constant), increases or decreases in the quantity demanded (i.e., shifting of the demand curve out or in, respectively), causes the equilibrium price to rise or fall, respectively. Similarly, with constant supply (holding the demand curve in place), increases or decreases in supply (i.e., shifting of the supply curve out or in, respectively), causes the equilibrium price to fall or rise, respectively.

Ceteris paribus (all else being equal), when consumers want (demand) more of a particular good, then it is likely that the price of the good will rise. Demanding less of a good will cause its price to fall. Conversely, when producers supply more of a good, then it is likely that the good's price will fall. A decreased supply is likely to cause the price to rise.

Finally, we should not be mystified by the discussion of quantities produced and prices. It is really quite simple. If you had the capacity to produce a product and introduce it into the marketplace, then you would set a price for the product above your cost of producing the product so as to earn a profit. If consumers do not purchase the product at that price, then you would likely lower the price. Conversely, if consumers scoop up the product at a rapid rate, then you are likely to raise the price to earn a larger profit. This is the very game that consumers and producers play in markets where products are produced and sold each day.

It is important to caveat the foregoing with the point that it represents a classical view and that characterization of "perfectly competitive" markets or a purely monopolistic market and the range of market types in between (e.g., duopoly or oligopoly) would cause Figure 1 to change significantly. Such characterizations are beyond the scope of this volume. However, we urge interested readers to explore these special market cases and the range of possible market types.

We assume that economic agents think and behave rationally in this model.

Markets

Economists' use of the term "market" may be linked ultimately to the scene that we are all so familiar with when we think of "farmers' markets." Whatever the origin, the concept of market is characterized by the meeting of sellers and buyers who willingly engage in transactions. Sellers have goods to sell and buyers want to acquire these goods. How they determine the price or rate of exchange and what they use to complete the transaction (money, sea shells, other goods, pledging of the purchaser's labor, etc.) depends on the specific situation. However, the constant feature of the concept of markets is that sellers and buyers are able to exchange goods and services. Today, we can also add to goods and services, ideas (intellectual property).²

In addition, the idea of exchanging goods, services, and ideas in the market here and now is too restrictive; future markets are very much a part of today's landscape, where buyers and sellers agree to exchange goods, services, or ideas at some future point. Interestingly, as opposed to determining a specific rate of exchange or price, market participants can gamble on the rate of exchange in what are called derivative markets, where the rate of exchange is linked to the occurrence or non-occurrence of particular events.

There are different market structures, ranging from perfect competition to monopolies. Governments can also play a large role in markets, they are able to set policies regarding price of products, services, and ideas. In the United States, we transact for goods, services, and ideas in an economy that is called a market economy. This is because US firms have very few barriers to overcome in purchasing and selling across borders. The North American Free Trade Association (NAFTA) is just one legal arrangement that permits the relatively free flow of goods across US borders. It is also considered a hybrid market because it is not completely competitive (there are many monopoly and oligopolistic-type players in markets) and it includes a great deal of socialistic principles (from Social Security to "corporate welfare").³

In US markets, it is important to note that certain markets are regulated (e.g., utilities and food industries), but most are not. Firms in these markets are self-policed or standards exist up to which firms must measure. In addition, the more fluid and unconstrained a market is, the more aggressive competing firms must be to attract sufficient market share to attain and maintain profitability.

In the Asia-Pacific region, economies of nations are characterized by a variety of market types: From the relatively free and open markets of Hong Kong, Singapore, and Japan

²By "intellectual property" we mean creations such as patents, trademarks, designs, databases, artistic originals, literary works, computer programs, etc. These creations are not tangible products such as computers, vehicles, food, or clothes, but they can have as much, or more, value.

³During financial and economic crises the United States Government invests in certain companies that are "too big to fail." By determining which firms will survive and which will fail (picking winners and losers), the government adopts principles that are akin to a command economy, much like the principles used in socialist and communist countries.

to the controlled markets of China, Mongolia, North Korea, and Burma. These nations' economies also reflect a variety of licensing and regulatory requirements.

Price

Price is the amount, in money, goods, services, or ideas that you agree to pay in exchange for products, goods, services, or ideas that are required to fulfill your needs or desires. The “price” concept extends to transactions that we do not normally consider in a “price” context: e.g., the price for labor is a “wage”; the price at which one borrows money is an “interest rate”; “taxes” may be viewed, in part, as the price that you pay to receive the benefits that governments offer at the city, state, or national levels; and the price at which international travelers or transactors exchange money is an “exchange rate.”

In a “market” economy (the predominant market type in the United States), price is usually determined by supply and demand (see Figure 1 on page 1 in the entry on “Economics”). The leading edge of price determination, however, begins with supply. First, producers come to understand that there may be demand for a product. Second, they estimate the amount (price) that consumers may be willing to pay for the product. Third, they calculate whether the product can be produced at a cost that will result in a sufficient profit (i.e., price less cost) to warrant the production of the good. In making this calculation, producers focus on the price that they must pay for the inputs that are required to produce the product.

To optimize assets and wealth, the goal is to negotiate and pay the lowest possible price for products, goods, services, and ideas that meet your requirements. Keep in mind that, in many cases, a lower price is associated with lower quality products, goods, services, and ideas.

Wealth

To have wealth is to have resources to produce goods, services, or ideas, which can be used to satisfy the needs and desires of those who wish to consume them. In its truest form, wealth or “capital,” is not paper money.

Wealth can be land, which can be used to produce food, to produce trees for lumber, to construct buildings, or to produce a golf course that can be used to provide recreational services. Wealth can be a structure, which can be used to provide shelter for a family and in which the family can conduct its affairs, to provide space for a manufacturer to organize equipment and workers to produce goods like computers or toys, or to provide space for firms to establish an office to provide health, legal, or medical services. Similarly, wealth can be a road, bridge, or airport runway that can be used to provide transportation services.

Wealth can be equipment, which can be used to build roads or bridges, to construct buildings, to make other equipment or other goods, or to serve as a producer of services: e.g., video equipment that displays movies in theaters, or vacuum cleaners that clean offices, or airplanes, trains, buses, trucks, and cars, that provide transportation services.

The wealth mentioned thus far is often called “tangible” wealth. “Intangible” wealth is also very important. For example, the knowledge that is stored in your brain from learning over the years is called “human capital.” Your knowledge is used to perform functions that lead to the production of goods, services, ideas, or more human capital. Another type of intangible wealth is a database or computer software. Databases and computer software enable their owners to produce goods and services in a fashion that is akin to the production of goods and services by other forms of capital.

Again, wealth is not paper money, or stock or bond certificates. These items are proxies for financial assets and wealth. Wealth is the resource that may be linked to, or acquired by, the paper money or securities that one owns. Wealth is that which can be used directly to meet needs and fulfill desires, or that can be used to produce new wealth.

Money

Whether one is playing a Monopoly game, or life's real game, money is valuable only when it can be used in exchange for a good or a service that is of value. We value money because we can exchange it to obtain goods or services to meet our needs or fulfill our desires.

In the past, money in most nations was backed by precious metals: usually gold or silver. However, in a 1934 conference of world bankers at Bretton Woods, New Hampshire, a process was initiated through which nations began to de-link their currencies from precious metals. In 1971, the United States completely de-linked its currency from precious metals.

Around the world today, the money that nations use is called "fiat" money; i.e., it is paper, the value for which is determined by the governments that issue it. Money's value is based on the owning government's willingness to guarantee that users of the money can exchange the money for goods, services or ideas. The same nations, by their policies, determine the value of the money in their economies.

The real importance of money is that it facilitates exchanges. Without money, economic agents would always have to find other economic agents with opposite needs and desires; there would have to be, what economists call, a "coincidence of wants." That is, if you were a lawyer in need of a suit, you would have to find a tailor who needed legal services. You would exchange your legal services for the suit that the tailor could produce.

Federal Reserve Bank

The Federal Reserve Bank (FRB) is the US central bank, and, among other things, it keeps our economy supplied with money. (The US Department of the Treasury is responsible for providing the actual money, which is produced at the US Mint.) The FRB is responsible for the operation of commercial banks in the nation. Commercial banks and other financial institutions facilitate the smooth flow of money through the economy through their acceptance of deposits, their creation of checking, saving, and other types of accounts, and through their lending of money.

The FRB includes the Federal Reserve Board in Washington, D.C., and 12 Reserve Banks located in Atlanta, Boston, Chicago, Cleveland, Dallas, Kansas City, Minneapolis, New York, Philadelphia, Richmond, San Francisco, and St. Louis. The Reserve Banks monitor commercial banks in their regions and ensure that they operate using sound practices.

The Federal Reserve Board, which has a chairman and six rotating board members (board members represent banks in the system), is an independent agency of the Federal government that is responsible for controlling the money supply in the US economy. The Board controls the money supply by raising or lowering interest rates by buying or selling US Treasury Securities (namely US government bills, notes, and bonds).

The Federal Reserve Board and banks in the system are intended to keep the economy growing; they also manage the economy to ensure that inflation remains at a reasonable rate. In its economy-managing efforts, the Federal Reserve Board monitors the growth and contraction of several monetary measures—three key measures being:

- M-1 = Currency (coins and paper money) and most checkable deposits (excluding those owned by the US government, the Federal Reserve Banks, commercial banks, or other financial institutions);
- M-2 = M-1 plus near monies, including savings deposits, time deposits, and money market mutual funds.
- M-3 = M-2 plus large time deposits that are usually owned by businesses as certificates of deposits.

In a nutshell, money is the oil that lubricates the economy, and the Federal Reserve Board serves as the mechanic tasked with applying an appropriate amount of lubrication depending on how the economic machine is operating.

The central banks of Asia-Pacific nations perform essentially the same functions, and have many of the same goals, as the FRB.

Monetary Policy

Monetary policy is the responsibility of the central bank (the Federal Reserve Board (FRB) in the US case, see page 8). It entails strategies to grow (contract) the money supply in an effort to accelerate (decelerate) economic growth, ensure high levels of employment, and to keep inflation in check. The FRB uses the setting of the Federal funds rate, the determination of bank reserve ratios, and open market operations (the buying and selling of securities) to control growth of the money supply.

The Federal funds rate is the interest rate that Federal Reserve Banks charge their member banks for short-term loans. This rate is lowered (raised) to make it easier (more difficult) for member banks to gain access to cash. The Federal funds rate, in turn, determines, in part, the Prime interest rate, which banks charge their preferred corporate customers. The Federal funds and prime interest rates are generally lower than the interest rates that banks charge individual customers interested in financing the purchase of homes, automobiles, etc.

The FRB also determines the rate at which member banks must retain reserves relative to the bank deposits that they hold. The higher the bank reserve ratio, the smaller the volume of loans that can be released against deposits—a slow growth policy. Conversely, the lower the bank reserve ratio, the higher the volume of loans that can be released—a fast growth policy.

Open market operations permit the FRB to pump money into the economy (buy securities) or to suck money out of the economy (sell securities). In this way, the money supply is expanded or contracted to facilitate an acceleration or deceleration of economic growth.

Generally, the FRB uses contractionary monetary policy to slow economic growth and cool (reduce) inflation. On the other hand, when inflation is low and economic growth is slow, the FRB adopts expansionary monetary policies.

Quantitative Easing

Quantitative easing (QE) is a monetary policy tool of central banks that can be used ostensibly to stimulate economic growth. It is usually undertaken when the monetary authority finds that traditional monetary policy (see the entry on page 9) is anemic or ineffective. Usually, the central bank uses monetary policy (namely open market operations—the buying (selling) of securities—to expand (contract) the money supply and stimulate (slow) economic growth. However, when the central bank expands the money supply and forces key interest rates to near zero and the economy still fails to expand, more direct methods of monetary intervention—namely QE—may be required.

QE entails central bank purchases of financial assets from the central government, government agencies, or private sector institutions. The purchase is made by crediting the checking account of the seller, and accepting the securities in exchange. The seller can use this newly created money to conduct operations. The central bank purchases expand the number of buyers of securities (i.e., increases demand for the securities), helps drive up the price of the securities and, thereby, helps suppress the yields (interest rate) on the securities.⁴

Through the QE process, the central bank expands its ownership of securities, which is reflected on the bank's balance sheet. However, the companion piece to QE is the unwinding of this balance sheet expansion. That is, as part of QE, the central bank must plan to sell the securities that it purchases once the economy begins to expand; thereby, reducing the amount of securities present on its balance sheet.

Essentially, the major difference between traditionally monetary policy (the buying and selling of securities in open market operation) and QE is the latter's use of secondary markets to buy and sell securities, the pre-announcement of the magnitude of security purchases that are to be undertaken, and the statement of plans to unwind those purchases when the economy begins to expand.

Using methods popularized by the Bank of Japan, the FRB began using QE following the economic slowdown that occurred during the 2008-2009 global financial and economic crisis. To date, the FRB has conducted two rounds of QE. QE1 involved expanding the FRB's balance sheet with \$600 billion in new assets; QE2 involved another \$600 billion in new assets. There has been speculation that the FRB will undertake another round of QE—QE3.

For QE to be successful, the sellers of securities must use the new money that is created in ways that expand economic growth; e.g., by creating new jobs, or by the acquisition of goods and services.

A related phenomenon is a "Monetary Twist." A Twist occurs when the FRB unloads assets of one maturity in exchange for assets of another maturity. For example, during

⁴It is important to keep in mind that there is an inverse relationship between the price of securities and their yield.

2011, the FRB sold assets with short-term maturities in order to purchase assets of longer-term maturities. The purpose of this Twist was to help ensure that US long-term interest rates would remain low. The thinking was that investors would plan to invest over a long-term horizon if they were convinced that interest rates would remain low. The expectation was that the economy would benefit (grow) as a result of these investments.

Inflation

Inflation is simply the rate at which prices change in the economy. For example, if the price of a meal at Restaurant X for you and your family was \$50.00 last year, but the price for a comparable meal increased to \$55 this year, then the price has increased by \$5 or by 10 percent. In this case, economists would say that you have experienced a 10 percent inflation rate in meals at Restaurant X. Recognize that inflation for product Y, which increases in price from \$1,000 in year t to \$1,100 in year t+1 is the same as inflation for product Z, which increases from \$100 in year t to \$110 in year t+1; both products experience 10-percent inflation.

Nations usually assigns the task of measuring price change to a statistical agency. Measures of price change not only include products, goods, and services that are commonly purchased by consumers (Consumer Price Index (CPI)), but also commodities that are usually purchased by businesses (Producer Price Index (PPI)). Both the CPI and PPI may be measured using price information about literally hundreds, if not thousands, of products. Certain nations also prepare price indexes for goods that are exported and imported; these indexes are called International Price Index (IPI). All of these indexes are usually prepared on a monthly basis.

It is important to keep in mind that, in measuring price change, one must compare changes in the price of products that are essentially the same. If a long-standing product “A” that has a particular set of characteristics is replaced in the market by a new product “B” with a different set of characteristics, then the change in price that you see from product “A” to product “B” represents both “pure price change” and “quality change.” Price change should be measured on a “constant quality” basis; i.e., efforts should be made to account for the characteristics or quality of products.

In today’s technological world, certain products (say computers or video game devices) continue to improve in quality (i.e., they include increasing and improved characteristics), yet they often reflect either little-to-no increase in price or even declines in price. In these cases, because the purchaser is getting “more” for the same dollar amount or even less, there has actually been a decline in price, or deflation (disinflation).

As an observer of, and participant in, the economy, you will find that there tends to be a close relationship (correlation) between inflation and interest rates. This is not a surprising outcome because an interest rate simply represents the price that you pay to borrow. The link between these two economic measures may be explained in the following way. Begin with businesses that produce goods, services, or ideas for the economy. First, the cost of borrowing goes up for businesses; i.e., interest rates rise.⁵ Second, in order to pay the higher cost of borrowing, businesses raise the price of the goods, services, or ideas that they produce to maintain their profit margin. Thus, we have an increase in interest rates and an increase in inflation (see Figure 2 below). The

⁵In most cases, rising interest rates result from action by the Central Bank—in the US case, the Federal Reserve Board.

reverse is also true. At a lower borrowing cost (lower interest rate), producers can lower or sustain the price that they charge for their goods and still retain the same profit margin—but firms do not always follow this logic.

Figure 2.—Cost-Push Inflation

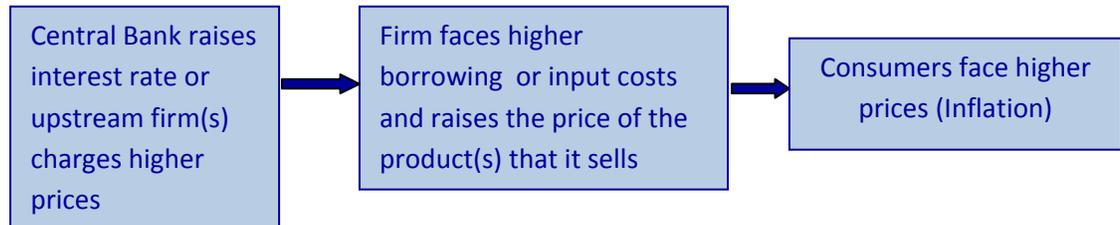


Figure 2 adequately characterizes “cost-push” inflation. “Demand-pull” inflation is characterized by price rises in response to increases in demand. Seeing excessive demand and possibly shortages caused by it, producers take the opportunity to raise prices. Price increases in this scenario are sustained if demand for products is relatively inelastic.

Here are a few key points to remember about inflation:

1. Central banks seek to keep inflation under control.
2. If economic conditions are such that inflation is expected to continue for some time, then it may be wise to borrow at the beginning of such an inflation cycle if a fixed interest rate can be secured. Under inflation, because wages (income) may increase as inflation increases, one may receive increasing amounts of income to pay off fixed loan payment amounts.
3. If inflation gets out of control (hyper-inflation), the economy suffers because of the uncertainty associated with price increases; it becomes very difficult to make business and other types of plans when prices are changing so rapidly. Under these circumstances, a great deal of energy must be expended just to plan to keep up with the rise in prices and to prevent economic harm that can be caused by inflation.

Some nations (e.g., Japan) experience disinflation for extended periods. Disinflation can be very damaging for an economy because consumers delay purchases expecting prices to fall further. Delayed purchases slow or halt economic growth; in an extreme case, deflation can cause economies to turn down.

Stagflation

Stagflation is a macroeconomic condition in which an economy experiences slow growth while simultaneously experiencing a high rate of inflation. Generally speaking these are asynchronous events. Usually, slow growth is accompanied by low inflation because a dearth of demand does not normally result in upward pressure on prices. However, a supply shock can cause an economy to slow while driving up prices (viz., the oil embargo that struck the US economy during the 1970s). In addition, if an economy experiences a high rate of inflation and a choice is made to slow the economy (using fiscal or monetary policy) in order to wring inflation out of the economy, it is possible that the economy will begin to slow before inflation subsides. If inflation persists, it may turn out that the economy settles at a slow growth rate while inflation remains high. This is a case of stagflation.

As an example, the US experienced severe bouts of stagflation during the 1970s and 1980s. Specifically, from 1974 to 1975, the US averaged -0.4% real gross domestic product (GDP) growth while also averaging 9.3% inflation (as signaled by the GDP deflator). Similarly, from 1980 to 1982, the US averaged 0.1% real GDP growth while also averaging 8.2% inflation. These are historically low growth rates and high inflation rates.

There is no magical “solution” to stagflation. If stagflation is due to a supply shock, then it must be resolved before the economy can return to a faster rate of grow and lower prices. Otherwise, if stagflation results from an effort to reduce inflation, then the economy must endure the pain of slow growth (and the concomitant rise in unemployment) until inflation subsides. However, once inflation declines to an acceptable level, managers of the economy can begin to administer doses of fiscal and monetary policy in order to raise the growth rate—being careful to not reignite inflation.

Gross Domestic Product

Gross domestic product (GDP) is a measure of the value of all the “final” goods, services, and ideas (output) that are produced in an economy during a year. The term “final” is important in this definition because “intermediate” products are not measured in GDP. For example, the value of the bread that you purchase from a grocer to consume is in GDP; however, the value of the seed and fertilizer that the farmer purchased to grow the wheat, the value of the wheat that was purchased by the mill to produce the flour, and the value of the flour that was purchased by the baker to produce the bread are considered intermediate goods and are not included in GDP. If the value of all of this intermediate output were included, GDP would be overstated. (The sum of the value of all intermediate and final production is called “gross output.”)

In summary, GDP is often used as a gauge of the “business cycle”; i.e., when the economy is increasing or declining. A traditional yardstick for when a recession occurs is that GDP must decline for two or more consecutive calendar quarters. A depression is marked by an extended period of declining GDP.

The responsibility of producing measures of GDP is usually assigned to a national accounts office, to a national statistics office, or to the central bank. Three approaches are usually used to measure GDP.

1. Expenditures: The value of expenditures for the final goods and services that are produced in the economy. The traditional equation for measuring GDP using this approach is:

$$GDP = Consumption + Investment + Government + Net Exports$$

Where “Consumption” is expenditures by consumers; “Investment” is expenditures for nonresidential structures, private equipment and software, residential structures, and change in private inventories; “Government” is expenditures by the government to produce services and to invest in structures, equipment, and software (military and civilian); and “Net Exports” is the value of “Exports” (goods and services sold abroad) less the value of “Imports” (goods and services purchased from abroad).

2. Income (Gross Domestic Income (GDI)): The value of the income (wages and salaries and property income (profits, interest, dividends, etc.)) that is earned in the production of the goods and services produced in the economy.
3. Value added by industry, which is equal to gross output less intermediate inputs: Gross output is the value of all—not just the final—goods and services produced in the economy. Intermediate inputs is the value of all inputs (labor, energy, materials, supplies, services, etc.) that are required to produce gross output.

In the national accounts, measurement techniques 1 and 3 are usually constrained to be equal. Theoretically, all three measures should be the same. However, because the

output and income measures are derived using different source data and estimation methods, they usually differ. The difference between the output (expenditure and value added) and income measures is labeled the “Statistical Discrepancy.”

GDP or output measures are prepared in current (nominal output) and in constant (real output) prices. Nominal output is the actual value in market prices of output produced in the economy; real output reflects adjustments to nominal output to remove price change. The latter measure makes it possible to compare output measures over time. For example, if GDP was valued at \$100 last year, but it is valued at \$110 this year, it is clear that nominal output has increased. However, has real GDP increased? It depends on the rate of inflation. If there was no inflation, then real GDP would have increased by 10 percent (from 100 to 110). However, if inflation increased by 10 percent, then real output would not have increased at all because real output measures are calculated by removing inflation from nominal output growth. In this case, we would remove 10 percent inflation from 10 percent nominal output growth to produce 0 percent real growth.

Industrial Production

Indexes of industrial production (IP) are produced by many, but not all, countries. IP indexes usually represent production by firms in manufacturing, mining, and utility industries (the latter industries include electric power generation, transmission, and distribution and natural gas distribution). In the United States, the IP index is constructed as a weighted aggregate of real gross output (nominal output deflated by a price deflator, where nominal output is the total value of what is produced during a period) for the manufacturing, mining, and utility industries, and then normalized to a particular year. In many cases, nations produce IP indexes on a monthly basis because monthly data are available with which to produce the indexes. Monthly IP indexes are often used to obtain an early reading on quarterly estimates of real gross domestic product (GDP). Given that manufacturing, mining, and utility industries constitute a large proportion of many nations' economies, it stands to reason that IP indexes may often serve as a high-quality indicator of GDP growth.

The quality and accuracy of IP indexes are called into question, however, when movements in the indexes differ from movements in GDP. For example, it is difficult to explain how major components of IP indexes, such as utilities, can drop significantly during a period, but real GDP can grow substantially during that period. For example, China's IP index and GDP estimates have received criticism because the just described scenario unfolded during the fourth quarter of 2008 and the first quarter of 2009.

Income

Generally, we think of income as the money that is received in return for labor services. However, income can be defined in broader terms. Income may be defined as the return on any product, service, idea, or asset that is placed in the market in a productive capacity—whether extended during an earlier or a current period. Therefore, income can be defined to not only include the wages and salaries that are received for our labor services, but it may also be defined as the monetary (pecuniary) or other returns/resources that are received for products, other services, and ideas that are produced. It may also include the returns that are received on other owned assets; e.g., equities (stocks or mutual funds), notes, bills, bonds, commercial paper, certificates of deposit, and saving and other types of financial accounts (i.e., interest, dividends, and capital gains).

Income can also be obtained in nonmonetary form; that is “in-kind” income. For example, if goods or services are received in response to participation in a government sponsored program such as Medicaid, Family Assistance (under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996), or the Women and Infant Care (WIC) program, then the products, services, and ideas received through these programs are considered in-kind income. The Food Stamp program falls into this category, although it has become essentially a cash program, because food stamps often function as “near money.”

In the national economic accounts, the following types of monetary income are identified as being received by persons: Wages and salaries, farm and nonfarm proprietors’ income, dividends, interest, rental income. The following types of nonmonetary or in-kind incomes are listed: Wage and salary supplements (mainly employer contributions to health and social insurance (Social Security and Medicare)) and transfer payments from government.⁶

Measures of income are important because, among other things, they are used to define who is above or below the poverty line. Median household income is also an important measure, because it indicates that half of the nation’s household are above and half are below this level. Gross domestic product (GDP) per capita is also a widely-used measure of income. It is computed as the nominal or current market price GDP divided by the population. (See page 15 for a definition of the GDP concept.)

⁶It is worth mentioning that employees also make contributions to health and social insurance.

Unemployment

As a starting point for defining unemployment, it is appropriate to begin by defining employment. Generally, to be employed is to be engaged in an activity. In an economic sense, to be employed is to be “working”; i.e., to have a job for which one receives compensation. (Such compensation is usually on a “per period” [hourly, weekly, monthly, or annual basis] or “per task” basis.) The compensation may include “regular” pay, overtime pay (for work beyond “regular” work hours), and bonus pay (special pay that may represent compensation for an extraordinary effort or it may be standardized [i.e., a regular component of the compensation package]).

Now that we know what it means to be employed, we can turn to what it means to be unemployed. Simply put, to be unemployed is to be without a job.

In the United States, the measurement of unemployment and the unemployed is performed thusly:

- Households are contacted and queried concerning persons who are working and who are not working.
- For those who are not working, the questioning proceeds with the query, “Has the nonworking person actively sought work within the past four weeks?” “Actively seeking” work primarily means, one has participated in a job interview, filed an employment application, etc.
- If it can be determined that a person has actively engaged in seeking employment in the past four weeks, then that person is considered to be a member of the labor force. If a person has not actively sought work within the past four weeks, then that person is not in the labor force.
- The unemployed, then, are those who are in the labor force, but who are not working.

Therefore, the unemployment rate (UR) is calculated using the following equation:

$$\text{UR} = \text{Unemployed Persons} / \text{Total Labor Force}$$

Notably, a person who is not working, who has not been working for some time, and who has not actively sought work within the past two weeks, but who would work if given the opportunity to do so, is considered a “discouraged worker.” Discouraged workers are not counted among the unemployed and are not reflected in the unemployment rate.

Nations in the Asia-Pacific Region define unemployment and the unemployment rate in a similar way. However, the method that is used to determine who is in the labor force and who is actively seeking work may be quite different.

Certain nations report an official level of unemployment that is much lower than the level of unemployment that would be reported if Western standards were used. These countries have sizeable rural populations that are engaged in essentially unproductive activities, and a sizeable proportion of this population should probably be counted as unemployed. However, these populations are counted as employed, and the unemployment rate that these nations report is artificially depressed.

In the context of US Pacific Command's area of responsibility economies, Singapore is one of few countries that publish two official unemployment rates. One rate represents unemployment by all workers in Singapore's economy; the second rate represents unemployment by Singaporeans. The two rates can be quite different. A relatively high proportion of Singapore's labor force is comprised of "guest workers."

Budgets: Balance, Surplus, Deficit, and Debt

National or central governments operate in much the same way that private businesses operate—they both generate receipts and incur expenses. Government receipts are mainly in the form of tax revenues or nontax payments. Government expenses include compensation for employees, operating expenses (including interest expense) that enable the production of the services offered by government, and capital expenditures to purchase the buildings, equipment, and software that are required to produce government services. In the case of government enterprises, there is essentially no difference between the transactions conducted by these entities and by private business. However, governments usually have a set of expenses that private businesses do not incur: Transfer payments to, or on behalf of, qualifying citizens, such as Social Security benefits, and payments for medical care.

Depending on the configuration of the political system in a country, a president or a prime minister may be required to develop a budget for the nation that reflects expected receipts and expenditures for a coming period—usually a fiscal year, which is a 12-month arrangement that may or may not be consistent with the calendar year. In most cases, a country's parliament or legislature must approve the budget that is developed by the president or prime minister.

The budget that is initially produced, that is approved, and/or the final accounting at the end of the fiscal year may reflect a balance, a surplus, or a deficit. A balanced budget occurs when receipts are exactly equal to expenditures. A surplus occurs when receipts exceed expenditures. A deficit occurs when receipts are less than expenditures. Governments meet deficits by drawing on savings that may have been accumulated via previous surpluses or from some other source, or the government borrow funds.

Large surpluses or deficits may signal that governmental operations are out of kilter. If a government incurs persistent surpluses, then the government may be raising too much revenue. If a government incurs persistent deficits, then the government may not be raising sufficient revenues and/or may be spending excessively. Generally, governments are likely to incur budget surpluses when the economy is growing rapidly, and they are likely to incur budget deficits when the economy slows or goes into recession.

Over the course of time, the cumulative budget balances (surpluses or deficits) incurred by a nation determines the nation's debt. If, over the years, a nation has ended fiscal years with deficits more so than with surpluses, then that nation will have a national debt that is equal to the sum total of those deficits, less the amount of the nation's debt that has been retired. National debt must be financed, and that financing creates expenses that must be accounted for in ongoing budgets.

Taxes

Taxes are unrequited payments that national, state (provincial), and local governments collect from their citizens; i.e., the tax payers have no expectation of receiving immediately and directly any good or service in exchange for their payments. Usually, taxes are based on laws that are passed by government officials to raise revenue to meet general and specific needs of its citizens. However, it is often the case that certain taxpayers receive few, if any, government services in exchange for their taxes, while other citizens may receive much more in services from their government relative to the taxes that they actually pay.

There are a variety of taxes: Income, corporate profit, value added, excise or sales, property, custom duties, etc. Taxes should be clearly distinguished from funds that are collected by government in the form of license and other fees and fines (nontaxes).

Traditionally, governments collect taxes to provide for the defense of its population, as well as to ensure that its citizens have access to education, health care, sufficient transportation options, and appropriate regulation. Government is also generally expected to take necessary action to ensure that there are sufficient economic opportunities.

While governments generally have progressive-type (tax payers with greater capacity to pay, in fact, pay more) tax systems, it is important to assess the full tax burden that citizens bear. That is, it is necessary to not only measure income-type taxes, but also value added or sales (excise), property, and other types of taxes that citizens pay.

Fiscal Policy

Fiscal policy is the purview of the US Congress. The traditional tools of fiscal policy are taxes (see page 20), subsidies, transfers, and special spending programs. Logically, a certain level of taxes must be assessed to raise revenue for government operations. However, when the economy is growing very rapidly and high levels of inflation are threatening, the Congress may decide to raise new taxes or impose higher tax rates to drain money out of the economy to prevent it from overheating. On the other hand, when the economy is in recession or growing very slowly, the Congress may reduce tax rates or abolish certain taxes to permit more money to remain in the economy, thereby stimulating growth.

Similarly, the Congress may use subsidies to accelerate or decelerate economic growth of selected products. Subsidies are payments that the Federal Government extends to firms for the production of certain goods. A popular case is agricultural subsidies. To ensure that sufficient food is produced to meet the country's needs, the government provides subsidies to farmers. When stockpiles of subsidized products reach excessive levels, the government has the option of discontinuing related subsidies.

Government transfer payments, mainly the social insurances (Social Security, Medicare, Medicaid, and Unemployment Compensation), are considered automatic stabilizers because they occur automatically and help offset downturns in the economic cycle. Each of the aforementioned transfer payments occur continuously. However, the coverage of each of these payments is usually expanded during a slowdown or downturn in the economy. These transfers operate as a safety net and ensure that additional funds are pumped into the economy when economic growth is slow.

Special spending programs are also used by Congress to help smooth out the business cycle. When the economy slows or turns down, Congress can enact special spending measures to create new jobs and pump money into the economy to help accelerate growth.

Investment

Surpluses result when one expends less than what one produces, i.e., there is saving. What happens to saving? If the saving is in the form of money, then there are at least two options. First, one can retain the money in cash (hide it under the mattress). Second, one can invest the funds in a variety of financial instruments (saving accounts, money market funds, individual equities (company stocks), mutual funds, notes, bills or bonds, etc.), or in tangible or intangible property (land, residential or commercial real estate, equipment, gold, jewelry, art, or goodwill). In either case, the investor obtains investment assets.

In a purely theoretical sense, all investments are intended to be used to produce future earnings. In the case of tangible and intangible property, investments are expected to have an extended useful life; i.e., usually longer than three years. Assets that qualify as investments (their nature and holding period or useful life) are determined by tax law.

Earnings on certain financial investments produce “interest” earnings (saving accounts, money market funds, certain mutual funds, and notes, bills or bonds, etc.); and other financial investments produce “dividend” earnings (corporate equities and certain mutual funds). Investment in tangible or intangible property produces “capital gains” earnings. These earnings or returns on investment are considered forms of income and they are usually taxable.

Investment in tangible and certain intangible property are reflected in the nation’s estimates of gross domestic product (GDP); they include private and public creation of nonresidential and residential structures, equipment and software, and inventories. Historical measures of investment help national accountants compile estimates of the nation’s capital stock (available investment goods) and to assess the future productive potential of the economy. Efforts are now underway to incorporate estimates of certain intangible investments, such as research and development and artistic originals, into measures of GDP.

Given information about the acquisition and use of investments and the earnings incurred through the use of these investments, it is possible to estimate the rate-of-return on investments; particularly those investments that are used by firms that operate in the market place. (It is more difficult to estimate the rate of return on certain public sector investments.) These rates of return assist prospective investors in determining whether it is in their best interest to invest in particular types of assets. The basis for making most investment decisions is the extent to which the future stream of income derived from the investment, in present discounted value terms, exceeds today’s cost of the investment.⁷

⁷By “present discounted value” (PDV) is meant the sum of “t” period expected returns on the investment discounted (divided by the quantity $[(1+r)^t]$ back to the current period. For example, if the flow of investment returns summed to 100 over a five year period, and the discount rate (interest rate, r) is selected to be 5 percent, then the PDV is calculated as $(\$100/(1+0.05)^5)$, which equals \$78.35. In this case, a rational investor will not enter into this investment if the cost of the investment exceeds \$78.35.

Stock Market

The stock market is a market; a place where buyers and sellers meet to buy and sell stocks. Stocks or equities, as they are often called, represent portions of the value—value in shares (proportions)—of firms. The stock market is an economic indicator—a robust stock market indicates that consumers are confident in firms' and/or the economy's prospects for growth.

Who is selling these shares? Initially (during “initial public offerings” (IPOs) and often later with subsequent offerings), firms offer ownership shares of their company so that they can raise money or capital (as distinguished from physical capital [structures and equipment]) to help finance and grow their company. In other words, purchasers of shares become owners of the firm. After firms sell their shares in the stock market to original purchasers, subsequent sales of those shares occur in the stock market by whomever happens to have been fortunate or unfortunate enough to come into ownership of those shares.

Who buys shares in the stock market? Individual investors, large investors, and every sized investor in between purchase stock. Since the dot.com era of the mid-to-late-1990s, the development of information technology and the proliferation of stock trading companies made it possible for almost anyone with an inclination to do so to trade in the stock market on an ongoing basis.

Most nations have their own stock markets; e.g., Japan's Tokyo Stock Exchange, China's Shanghai Stock Exchange; and India's Bombay (Mumbai) Stock Exchange. Indicators that signal the relative value (relative to a reference period) of the market include the NIKKEI 225 Index, the Shanghai 50 Index, and the Bombay SENSEX Index.

Interest Rates

As stated in the “price” entry (see page 5), the interest rate is the price that borrowers agree to pay lenders in exchange for the use of the latter’s monetary resources. For example, if you were a lender who loaned us \$100 at an interest rate of 10 percent, and we agreed to the loan arrangement, then we would be obligated to not only return the \$100 dollars to you at the end of the loan period, but also an additional \$10 in interest. So the price of the loan was, in essence, the 10-percent interest rate—the rate or price at which the money was borrowed. One may view the interest rate as the price per dollar (in this case \$0.10) or the price for the entire loan (\$10.00).

There are numerous types of interest rates. For example, there are interest rates on home loans or mortgages (mortgage rates), car loans, saving accounts, money market funds, interest bearing checking accounts, government and firm notes, bills, and bonds, credit card accounts, and even pay-day credit accounts.

Traditionally speaking, interest rates, like most other prices, are determined by the demand and supply of funds that are available for lending. However, central banks, in their role of controlling the money supply, play an important role in determining the amount of funds that are available for lending. In addition to the pure supply and demand basis for interest rates, most lenders factor up the interest rate with a so-called “risk premium.” That is, interest rates are usually adjusted up to reflect the risk (that the borrower may default on the loan) that the lender assumes by extending the loan. The higher is the risk per borrower, then the higher the risk premium and the overall interest rate.

Another factor that determines interest rates is the perceived level of access to lenders. If a customer has access to many lenders that must compete to extend loans, then this competition is likely to assist in keeping interest rates at a level that is lower than they would be otherwise. However, if lenders perceive that borrowers have little choice in lenders, then competition may not be sufficient to hold interest rates down. In these cases, lenders feel empowered to charge higher interest rates.

LIBOR

In a classical competitive economy model, equilibrium interest rates are determined in demand for, and supply of, money framework. However, in the real world of lending and borrowing, supply, demand, and equilibrium do not occur simultaneously. Therefore, most lending institutions determine the interest rates that they assign to loans based on a benchmark. For many types of loans, that benchmark is the London Interbank Offered Rate or LIBOR.

The LIBOR is published each day at 11:30 a.m. London time, and represents the average interest rate at which 18 banking institutions report that they expect to be able to secure loans from other financial institutions.⁸ LIBORs are computed for 15 different maturities: From one-day to 12-month loans. In addition to a US dollar LIBOR, there are LIBORs for nine other currencies. The British Bankers' Association (BBA) collects interest rate data and prepares and publishes LIBORs.

How are LIBORs used? Consider residential mortgage loans as an example. A mortgage lender may have a policy of establishing a mortgage interest rate by setting it at a certain number of basis points above the 12-month LIBOR on a date specified by the loan agreement. Similarly, a car loan provider may establish the interest rate for car loans at a certain number of basis points above a 12-month LIBOR on a date specified by the car loan agreement. In addition, many derivative contracts are based on LIBOR values.

During 2012, the press reported on government investigations of the LIBOR. It was reported that certain financial institutions were involved in releasing their LIBOR quotes early to investors and in misreporting to the BBA. These investigations resulted in fines, closer scrutiny, and more security surrounding the process used to prepare the LIBOR. Given that trillions of dollars in loans and derivative transactions are linked to the LIBOR, it is unlikely that its role in financial markets will be diminished significantly anytime soon.

⁸ The top and bottom four interest rate quotes are thrown out; an unweighted average is derived from the remaining ten interest rate quotes.

Bonds

Bonds are financial instruments that are sold by government or by firms (also known as commercial paper) to investors. Bonds represent loans by investors to government or business. Unlike equities (company stocks), bonds convey no ownership rights to lenders. However, bonds are considered to be less risky than equities. In most countries, the law requires that lenders be paid before dividends are extended to stock holders should a firm enter a dissolution (bankruptcy) process.

How do bonds work? If an investor decides to invest in a firm by purchasing the firm's bonds, then the investor makes a decision to act as a lender to the firm based on specific terms: A predetermined interest rate (yield rate or rate of return) and a predetermined loan period. For example, an investor may act as a lender to a firm by giving the firm \$1,000 and receiving in exchange a bond certificate with a face value of \$1,000. The terms of the loan, for sake of this example, might be that the interest rate is 5 percent per annum and the period of the loan is five years. In this case, the firm pledges to pay the lender \$50 dollars in interest each year during the loan period ($\$1,000 \times 0.05 = \50); and at the end of the five-year period, the firm would return the investor's \$1,000. In this case, the investor will receive a total of \$250 in total interest payments for this bond over the five-year period.

As a form of lending and borrowing, bills (one year) and notes (two to ten years) are equivalent to bonds, except that they have a loan period that is shorter than for bonds (greater than 10 years).

Securities

Securities encompass a wide-range of investment instruments (legal documents) that may be issued by private- or public-sector entities that convey to the owner rights in debt or equity; i.e., the right to complete or partial ownership of physical assets or to a future payment or stream of payments. Securities reflect maturities that exceed nine months.

Securities include, but are not limited to, company stock shares, bills, notes, bonds, debentures, certificates of interest, profit-sharing agreements, certificates of deposits, and option contracts. Securities exclude currency, drafts, bills of exchange, banker's acceptances, and other financial instruments that reflect maturities that are less than nine months in duration.

While certain Asia-Pacific Region nations possess sophisticated enough financial systems to support trade in most, if not all, of the types of securities listed above, many nations in the region have not reached such a level of sophistication. Hence, there is significant room for growth and development in the financial systems of these nations. It is expected that expansion of securities trade in these nations will increase "allocational efficiency" within their economies.⁹

⁹"Allocational efficiency" here means that assets—in this case financial assets—can be directed to the production of their highest possible (most efficient) returns. That is, countries without mature securities markets may find that the development of these markets will yield higher returns than are currently available in existing mature financial markets.

Asset-Backed Securities

Asset-backed securities (ABS) are securities that are supported by underlying assets, such as real estate mortgages, car loans, student loans, and credit card loans. In other words, identified assets are pooled (rolled together) to form ABS. These securities have become increasingly popular since the 1990s. ABS enable depository institutions, financial companies, and other corporations to convert their long-term balance sheet assets into cash.¹⁰ A key benefit derived from securitizing balance sheet assets is the spreading of risk.¹¹ In fact, companies that purchase securitize balance sheet assets, and then ensure against default by purchasing “credit default swaps” (see page 31) essentially shed most, if not all, of the risk that is associated with the security that they purchase (e.g., home mortgages, student loans, or car loans). It can be comforting, however, to think that, because even the most financially strapped companies may hold low risk and valuable assets on their balance sheets, it is possible for the credit quality of ABS to be higher than the credit quality of the companies that contribute underlying assets to them.

¹⁰Long-term balance sheet assets are those assets that are associated with a long-term stream of returns.

¹¹Securitization is the process of packaging (rolling many into one) assets into a salable security, which can be priced in a securities market framework.

Credit Default Swap

Credit default swaps (CDS) are an insurance-like agreement that involves three parties. A lender/investor (the first party) obtains a security from a borrower/issuer (the second party) of asset backed securities (ABS). The lender/investor then insures against the default of the borrower/issuer by purchasing CDS from an insurer (the third party). The lender/investor makes periodic payments to the insurer (an insurance premium-like payment). If the borrower/issuer defaults, the insurer is obligated to make the lender/investor whole. This can be achieved by the insurer filling the gap between the ABS' par value (value at the point of sale) and the market value of ABS at the time of default. The insurer also pays to the lender/investor the remaining expected stream of income (interest payments) that is associated with ABS.

Interestingly, CDS do not carry an international classification as an insurance product. Therefore, non-insurance firms sold this financial protection prior to the 2008-9 global financial and economic crisis, but they were not required to maintain reserves in the same way that "insurance" companies are required to maintain reserves. In addition, certain insurance companies that sold CDS did not maintain sufficient reserves to cover defaults because they were not required to do so. Therefore, when defaults rose on ABS to unexpected levels during the financial and economic crisis, sufficient reserves were not available to cover CDS, which exacerbated the crisis and helped produce a global economic downturn.

Short Selling

A “short sale” occurs when an investor sells a security without owning it with the expectation that the price of the security will fall. Conversely, an investor is “long” when a security is purchased with the expectation that its price will rise.

A successful short sale transpires as follows. A short seller borrows a security (stock) from a broker and sells it immediately. The expectation is that the price of the security will fall, at which time the short seller will purchase the security at a lower price, then return the security to its owner, and reap as a profit the difference between the original sales price and the lower purchase price. Of course, the profit is reduced by the amount of brokers’ and other transaction fees. In addition, the short seller must pay to the owner of the security an amount equal to dividends or rights that accrue to the security while it is on loan.

Short sellers can borrow a security indefinitely. However, short sellers may be forced to cover the full value of the security if brokers that loaned the security request that it be returned.

Short selling can become quite popular when it appears that the prices of certain securities are going to fall. This is what occurred during the 2008-2009 global financial and economic crisis. As short selling proliferated, it produced a self-fulfilling prophecy as the price of a broad range of securities fell. Consequently, regulators of securities markets around the world called a temporary halt to short selling. At this writing, however, short selling has returned to most securities markets.

Credit Rating Agencies

Credit rating agencies (CRAs) or bureaus have as their primary purpose assessing the credit worthiness of prospective borrowers. They use statistical techniques to assess the risk that lenders face. For individuals, credit bureaus assess the risk that a loan will be repaid: House, automobile, student, or credit card loans. Usually, a numerical score is issued to indicate risk. For a sovereign government, a firm, a security, or a project, CRAs assess the risk that a default will occur. CRAs assign ratings from essentially “risk free” (AAA) to the highest risk (D) status.¹²

In the US, CRAs are regulated by the Securities and Exchange Commission. Nevertheless, critics of CRAs argue that, because CRAs charge prospective debtors for ratings, the former do not have sufficient incentives to accurately assess risk. Critics argue further that this was clearly the case during the 2008-2009 global financial and economic crisis when high credit ratings were assigned to certain debt instruments, but the default rates on the debt instruments turned out to be quite high.

When risk is assessed properly, the benefits of CRAs are that they enable lenders/investors to differentiate well between risk-free and risky investments; they assist lenders/investors in determining an appropriate risk premium to assign to investment opportunities; and they generally enable more lending than would otherwise occur and, thereby, contribute to economic growth.

¹² Here we use Standard and Poor’s rating symbols.

International Economic Transactions

Nations account for their international economic transactions using *Current, Capital, and Financial accounts* from which one can compute the *Balance of payments*.

Current account

The *Current account* is equal to the balance on traded goods and services (exports of goods and services less imports of goods and services), plus *Net factor income* flows (company payments from abroad less company payments to abroad), plus *Net foreign remittances* (payments from residents living and working abroad less payments by foreign nationals back to their home countries), plus *Net unilateral transfers* (government transfers to other nations less payments from foreign governments).

A *Current account* surplus indicates that the home country has an excess of claims on foreigners, while a *Current account* deficit indicates that foreigners have an excess of claims on the home country. However, accounting ensures balanced accounts; i.e., no excesses. Therefore, imbalances in the *Current account* are balanced by *Capital and Financial account* transactions.

In other words, the sum of the *Capital and Financial accounts* is equal in value to the *Current account* but has the opposite sign (+ or -, indicating surplus or deficit, respectively). Note that the *Balance of payments* is determined by the following identity:

$$\text{Current account} + (\text{Capital and Financial accounts}) = 0.$$

The following formula states this conclusion differently:

$$\text{Current account deficit (or surplus)} = \text{Capital and Financial account surplus (or deficit)}.$$

Capital and financial accounts

The *Capital account* reflects transactions (changes in ownership) in capital assets (e.g., foreign direct investment (FDI) and other transactions in physical capital). The *Financial account* reflects transactions in financial assets (e.g., gold, currency reserves, FDI, equities, loans, securities, and derivatives) and a statistical discrepancy.¹³

It is important to note that when a resident of the home country acquires a foreign capital or financial asset it is registered as a capital and financial outflow (-), while the acquisition of a domestic capital or financial asset by a foreigner is registered as a capital and financial inflow (+).

¹³The *Statistical discrepancy* results from errors and omissions in the accounts.

Foreign Direct Investment

Foreign direct investment (FDI) entails a company from a home country founding a new company, acquiring an existing company outright, or obtaining a significant voting interest (10 percent or greater) in an existing firm in a foreign nation. The home country company is considered the “parent,” and the foreign company owned by the parent is called an “affiliate.” A parent must be actively involved in the management of its affiliate.

Nations may experience FDI inflows (foreign companies acquiring home country firms) and outflows (home country companies acquiring foreign firms) from year-to-year. The cumulative value of these investments is considered the “stock” of (inward or outward) FDI. The United States, China, Belgium, and Hong Kong were the top recipients of inward FDI in the world during 2011. The US, Japan, the United Kingdom, and France were the leading extenders of outward FDI during 2011.

The inward and outward flow of income from affiliates to their parents creates *Net factor income* flows for a nation. The latter is an entry in the Current Account of nations’ International Transactions Accounts.

Portfolio Investment

Portfolio investment is the passive holding by a home country owner of foreign securities, such as stocks, bonds, other financial assets, and a less than 10 percent voting interest in a foreign firm. The owner must not be actively engaged in managing these assets.

The flow of income derived from ownership of these assets (inward flows to home country from foreign assets, and outward flows to owners of home country assets) constitute income from portfolio investments, which is an entry in the Financial Account of nations' International Transactions Accounts.

Exchange Rate

An exchange rate is the rate at which one currency can be exchanged for another currency. For example, on September 15, 2012, the dollar-to-yen (the currency for Japan) exchange rate was ¥78.3688. That is, one dollar would purchase 78.3688 yen. The reverse calculation is that the yen-to-dollar exchange rate is \$0.012760. That is, a yen would purchase 0.012760 dollars.

As noted in the entry on “Price” (see page 5) an exchange rate is just a price that you pay for one currency in terms of another currency. The price is, in part, determined in the international foreign exchange market based on demand and supply. Economic agents throughout the world demand a certain amount of a particular currency, the nation that owns that currency is willing to supply a certain amount, and the two quantities (demand and supply) determine, in part, the price.

We say “in part” because the value of very few currencies are permitted to be solely determined by market forces (i.e., very few currencies are allowed to “freely float”). Depending on where a country is in its business cycle, it may be advantageous to have a strong currency (sell at a higher price—fewer units of your currency in exchange for a unit of another currency) or a weak currency (sell at a lower price—more units of your currency in exchange for a unit of another currency). Therefore, most nations intervene in the market to control or “manage” their currencies’ exchange rates. Some nations attempt to have a fixed (or pegged) exchange rate; i.e., the currency’s value is maintained at a fixed amount relative to certain other currencies. Other nations adopt a “managed” exchange rate regime; a so-called “dirty float” regime where the value of the currency is allowed to fluctuate relative to certain other currencies. Certain countries adopt a currency banding strategy, where they allow the value of their currency to fluctuate within a band relative to the value of one or a basket of other currencies.

When, due to market or other conditions, a currency rises in value (fewer units of the currency must be exchanged for one unit of another currency), we say that the currency has “appreciated.” On the other hand, when a currency falls in value (more units of the currency must be exchanged for one unit of another currency), we say that the currency has “depreciated.”

You might think that there are many nations and many exchange rates, and that there may be opportunities to earn money by trading currencies in such a way as to take advantage of differences in exchange rates across three or more countries. For example, suppose we had the following situation:

Currency X to Currency Y exchange rate = 1.43
 Currency X to Currency Z exchange rate = 0.20
 Currency Y to Currency Z exchange rate = 7.25

In this situation, one could take 1.43 units of currency X, purchase one unit of currency Y, use the one unit of currency Y to purchase 7.25 units of currency Z, and then use the 7.25 units of currency Z to purchase 1.45 units of currency X, which is .02 more units of currency X than with which you began. A 0.02-unit profit on the transaction is not very much in and of itself, but when currency “arbitraders” conduct such transactions in thousands or millions of units, the small unit profits produce large overall profits. It was feasible to conduct arbitrage transactions of this type before international computer networks were established. However, today, with the world being so tightly connected electronically, it is difficult to identify and take advantage of even very small differences in exchange rates across a variety of currencies.

You should know that there are “futures” currency markets. That is, in case the need arises, you can write a contract to buy or sell currencies at a particular point in the future at a rate that is agreed upon in the current period. The problem with such futures transactions is that there is uncertainty as to whether the exchange rate will remain the same or change in your favor or disfavor between the current period and the futures contract settlement date. To avoid this risk, many futures contractors “hedge” their risk by making offsetting contracts: One that anticipates a rise in exchange rates and one that anticipates a fall in exchange rates.

The following are a few interesting facts about exchange rates in the Asia-Pacific Region:

- As of June 19, 2010, the exchange rate for China’s currency (the renminbi) is permitted to appreciate or depreciate on a managed float basis as determined by officials at the Peoples Bank of China—China’s central bank.
- Although Hong Kong is Special Autonomous Territory of China, Hong Kong maintains a different currency—the Hong Kong dollar. The Hong Kong dollar is pegged to the US dollar. In addition, Hong Kong banks must back up Hong Kong dollars with US dollars. For every Hong Kong dollar that is issued, there is the equivalent exchange in US dollars in the bank’s reserves.
- Typically, the Japanese yen is one of the few Asia-Pacific currencies that is allowed to float on the world market. Currently, the yen is one of the strongest currencies in the world, and the Japanese are intervening in international foreign exchange markets (selling yen) in order to weaken the value of the yen.

Foreign Exchange Reserves

Here we define foreign exchange reserves to include currencies held by the central bank or monetary authority of a nation.¹⁴ Foreign exchange reserves are accumulated mainly through trade. A home country that exports more goods and services than it imports from a foreign nation creates a trade surplus that is evidenced by an excess of currencies (exchange) from foreign nations with which it has a trade surplus. This currency surplus constitutes a reserve that can be used for a variety of purposes. Theoretically, foreign exchange reserves can be used to:

- Purchase goods and services.
- Conduct foreign direct investment.
- Conduct foreign financial investment.
- Conduct a unilateral transfer.
- Purchase other currencies in the international foreign exchange market.
- Sell on the international foreign exchange market by a nation to manage the value of its currency.

However, if central banks fully “sterilize” foreign exchange inflows (i.e., removes an equivalent amount of domestic currency from the market (reduce the money supply) that it extends in exchange for new inflows of foreign currency—mainly by selling government securities (bills, notes, or bonds)), then the central bank must invest its reserves in order to garner earnings with which to service the debt that is associated with the securities that it has issued during the sterilization process.

Many nations in the Asia-Pacific Region have accumulated sizeable amounts of foreign exchange reserves, with China being the leader (over US \$3.3 trillion as of March 2012). Several Asia-Pacific nations have used foreign exchange reserves to develop sovereign wealth funds, which have conducted wide-spread investing around the globe. Nations that do not have a freely floating exchange rate regime use foreign exchange reserves to manage the value of their currency.

¹⁴The most complete definition of foreign exchange reserves includes special drawing rights, gold, bonds, currencies, and International Monetary Fund (IMF) reserve positions. Special drawing rights are a currency-equivalent asset that is allocated to nations by the IMF, and that can be used for transactions between nations. A reserve position at the IMF is the balance of reserves—as just defined—held in a nation’s account at the IMF.

Currency Manipulation

Currency manipulation is when a nation intervenes in the international foreign exchange market to raise or lower the value of its currency in a manner that is inconsistent with its stated foreign exchange rate official policy objectives and that is purposely designed to create economic advantage for itself at the expense of other nations.

For example, a (home) nation uses its existing foreign exchange reserves to intervene in foreign exchange markets to mainly purchase or sell key currencies (US dollars, Japanese yen, or European Union euros). Thereby, the home nation reduces or raises the supply of key currencies in the foreign exchange market and pushes their value up or down vis-à-vis the home nation's currency. Consequently, the relative value of a home nation's currency falls or rises.

Green and Torgerson (2007) argue that China and other Asia-Pacific nations hold excessive amounts of foreign exchange reserves.¹⁵ Could it be that among the reasons that excessive reserves are held is in order to “manipulate currencies?”

¹⁵See Green, R. and T. Torgerson (2007), “Are High Foreign Exchange Reserves in Emerging Markets a Blessing or a Burden?” US Treasury Department Occasional Paper No. 6. March. Retrieved from the Internet on May 24, 2010; <http://www.treas.gov/offices/international-affairs/occasional-paper-series/docs/reserves.pdf>.

Currency Swaps

In a macroeconomic context, currency swaps are agreements between central banks or monetary authorities in which agreeing parties commit to making their currencies available to each other. The agreements cover the amounts of currencies that will be made available, and the amount of time during which the agreement is to be in force.

As an example, currency swap lines of credit agreements were entered into by the US Federal Reserve Bank and the central banks (monetary authorities) of several Asia-Pacific countries (Japan, South Korea, Singapore, Australia, etc.) during the 2008-2009 financial and economic crisis. These agreements ensured dollar liquidity in these Asian markets at a time when private US banks reflected a constrained willingness to lend dollars. Therefore, to the extent that Asian companies and, therefore, banks needed dollars to conduct transactions, the latter could borrow dollars from their central banks if and when private US banks were unwilling to lend dollars. This arrangement facilitated economic transactions that would not have otherwise occurred between parties desiring to trade in dollars. As another example, China is developing currency swap arrangements with selected countries in an effort to slowly internationalize the renminbi.

There is a microeconomic analogue to currency swaps. It is a type of foreign exchange agreement that involves two companies swapping equally-valued (in net present value terms) principle and fixed rate interest payments that are denominated in different currencies. Such agreements serve as cost-cutting and/or hedging measures. These types of currency swaps also constitute an alternative to currency futures contracts.

Foreign Remittances

Foreign remittances are payments that are transmitted back to a home country by a resident who is working in a foreign country. Several nations in the Asia-Pacific Region (e.g., China, India, Philippines, Bangladesh, and Indonesia) derive a significant amount of income from foreign remittances. Countries receive and transmit foreign remittances; therefore, the net amount is an entry in the Current account of nations' International Transactions Accounts. As an example of the importance of foreign remittances, consider that they accounted for close to 11% of the Philippines' and Bangladesh's GDP in 2010.

International Financial Institutions

During and after World War II, nations recognized the importance of collaborative forums through which to provide assistance to needy nations. They recognized that events could unfold that could push even strong nations to the point where assistance might be useful—if not absolutely required. Hence nations formed the United Nations, which mainly addressed political, social, and economic issues in a very philosophical way. However, nations also formed two major financial institutions that could address financial and economic concerns that might surface within and across nations in a very practical way: The International Monetary Fund (IMF) and the World Bank. Subsequently, during the 1960s, a subset of United Nations member countries created the Asian Development Bank (ADB), which focuses strictly on providing financial assistance to nations in the Asia-Pacific Region. These three financial institutions—the IMF, the World Bank, and the ADB—are discussed below.

International Monetary Fund

The International Monetary Fund (IMF) was founded in 1945. It is a financial institution that offers concessional loans to member countries experiencing financial crisis. The IMF also provides policy advice, global financial and economic analysis, and technical assistance.

The IMF is funded and operated by its 187 member countries. Any country can apply to become a member. A majority of the existing membership must approve new accessions. IMF member nations are allocated a quota which determines: (1) The amount of capital a country must initially contribute to the IMF; (2) the number of votes allocated to the country; and (3) the accessibility of funds available to the country. Until 2009, the quota was based on the size of a member country's economy relative to the global economy. However, the IMF is currently making quota reforms to better reflect the ever-changing global economy and to provide more incentives for low-income countries to join the IMF.

As a diverse organization, the IMF is able to promote economic cooperation between member countries.

A country that requests a loan from the IMF typically has exhausted all other financial options; i.e., they are unable to obtain loans from private banks or from allies. IMF loans are extended only after the requesting country and IMF have agreed on an economic plan. Often, requesting countries must implement financial reforms before or after receiving loans in order to produce a healthier economy.

For more information about the IMF, visit www.imf.org.

World Bank

The World Bank is an international financial institution that is owned and operated by its 187 member countries. Members must first be a part of the International Monetary Fund (IMF) before being eligible for World Bank membership. The organization offers financial and technical assistance to developing countries in order to foster economic and social improvements.

The World Bank is comprised of two major institutions: The International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). While both institutions have similar goals of helping developing countries, the IBRD assists poor countries that have established credit, while the IDA assists the poorest countries in the world. Both institutions receive contributions from member countries; however, the IBRD is more self-sufficient. The IBRD lends contributed capital and uses interest charges to operate. This is unlike the IDA, which is generally funded every three years by 40 donor countries.

Member countries may apply for low-interest or no-interest loans, or for grants from the IBRD or the IDA. Countries must propose a specific project that the financing will be used to complete, such as building a wastewater treatment plant or developing farmable land. The project proposal is reviewed to ensure that it meets World Bank goals. Financial assistance will be provided only after the borrower and the World Bank agree upon a national development plan. Throughout the project development period, the country must demonstrate that project milestones and goals are being met.

For fiscal year 2011, World Bank lending to developing countries by IBRD/IDA totaled over \$43 billion. IBRD loans totaled nearly \$27 billion. The world's poorest countries—which usually cannot afford to borrow on commercial terms—receive grants and no interest loans (credits) from IDA. Last year, IDA commitments rose to over \$16 billion.

For more information about the World Bank, visit www.worldbank.org.

Asian Development Bank

The Asian Development Bank (ADB) is a regional financial institution that was formed in 1966, and it is owned and operated by its 67 member countries. Countries that are a part of the United Nations Economic and Social Commission for Asia and the Pacific are eligible for membership. New membership must be approved by a majority of the existing members.

The ADB provides loans, grants and technical assistance for developmental projects to struggling Asian and Pacific countries. The ADB is able to conduct operations using contributions made by member countries. The ADB lends capital, and then generates earnings through minimal-interest charges.

ADB members that are classified as “developing” countries may receive loans or grants for projects that contribute to their economic and social development. To receive a loan, the developing country must first collaborate with the ADB on a Country Partnership Strategy to identify development goals and measurements. Once a specific project is identified and a loan is approved, the country cooperates with the ADB to show that they are meeting milestones.

The ADB mainly provides loans to the governments or public sectors of developing member countries. However, at times, loans may be made available to private enterprises that operate within developing countries. For 2011, the ADB engaged in financing projects valued at \$21.72 billion.

For more information about the ADB, visit <http://www.adb.org>

Summit Meetings

In a globalised world, nations have found that an effective way to solve problems and to plan for the future is to assemble for these purposes. Summit meetings are meetings between higher level government officials; they are forums where governments discuss important international economic and political issues. In addition, governments use these forums to strengthen their ties. Member nations can consult with one another and may agree to cooperate in economic, financial, military, and political efforts. Among the top summits at which the largest nations meet are the G-7, G-8, and G-20 Summits. These alpha-numerical terms reference both the number of members present at the summit meeting, and to the summit meeting itself.

The G-7 and G-20 meetings are focused on finance and the economies of countries. Typically, finance ministers or central bank governors participate with heads of states during G-7 and G-20 meetings. The G-8 meeting may concern a wide variety of topics and usually, the head of state attends the meeting. The rotating host country of the G-8 Summit sets the meeting agenda. The G-20 Summit is a recently (2009) configured summit of developed and large emerging market economies. Recent G-20 Summits have focused on solving the global financial and economic crisis, and on sustaining growth thereafter.

Members of the G-7 include: Canada, France, Germany, Italy, Japan, United Kingdom, and United States.

Members of the G-8 include: Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and United States.

Members of the G-20 include: Argentina, Australia, Brazil, Canada, China, European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom, and United States.

Regional Organizations

Asia-Pacific Economic Associations

Nations in the Asia-Pacific Region have found great benefit in developing collaborative associations through which to address political, military, and economic issues. There are a plethora of such organizations, which vary in membership from just a few nations to organizations that have over 20 members. Two of the most important associations of nations in the Asia-Pacific Region are the Asia-Pacific Economic Corporation (APEC) and the Association for Southeast Asian Nations (ASEAN). They are highlighted below.

Asia Pacific Economic Cooperation

The Asia Pacific Economic Cooperation (APEC) includes 21 member countries, and strives to facilitate economic growth, cooperation, trade and investment in the Asia-Pacific region. APEC membership is voluntary. In addition, policies or agreements made under APEC facilitation are executed willingly by members.

Each member of APEC has an individual action plan (IAPs) that highlights actions taken each year to promote free trade and investments. APEC members also help to fund operations and projects that support APEC's mission. These project objectives range from "establishing channels for information exchange, to assisting business with trade and investment, to providing information technology training in developing economies."

Member countries include: Australia, Brunei Darussalam, Canada, Chile, China, Hong Kong, Indonesia, Japan, South Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, The Philippines, Russia, Singapore, Taiwan, Thailand, the United States, and Vietnam.

For more information about APEC, visit <http://www.apec.org>

Association of Southeast Asian Nations

The Association of Southeast Asian Nations (ASEAN) is an organization that promotes economic growth, social progress, cultural development, peace and stability throughout the Southeast Asian region. Member countries work cooperatively to achieve economic and social goals, while respecting each other's differences and allowing each other to govern themselves without interference. Member countries include: Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar (Burma), Philippines, Singapore, Thailand, and Vietnam.

For more information about ASEAN, visit <http://aseansec.org>

South Asian Association for Regional Cooperation

The South Asian Association for Regional Cooperation (SAARC) was founded in 1985 and includes the following member nations: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. Using principles espoused by the United Nations, SAARC members pledge to seek peace, freedom, social justice and economic prosperity fostering mutual understanding, good neighborly relations and meaningful cooperation. Key SAARC objectives include promoting the welfare of the peoples of South Asia, to improve their quality of life, to accelerate economic growth, and to promote active collaboration and mutual assistance in the economic, social, cultural, technical and scientific fields. The SAARC usually convenes annual summits to conduct its business. Since 1985, 16 summits have been convened. SAARC headquarters is in Kathmandu, Nepal.

For more information on SAARC, visit <http://www.saarc-sec.org/>.

Pacific Islands Forum

The Pacific Islands Forum (PIF), which was established formally in 2005, includes the following member nations: Australia, Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Republic of the Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. The PIF was established to ensure that the region maintained peace, harmony, security and economic prosperity. The key PIF goal is to stimulate economic growth and enhance political governance and security for the region. The PIF meets at least once annually to carry forward its goals and plans.

For more information on the PIF, visit <http://www.forumsec.org.fj/>.

Trans-Pacific Partnership

In December of 2009, and at the direction of President Barack Obama, the US Trade Representative (USTR) began promulgating a plan to develop a new free trade agreement (FTA) labeled the Trans-Pacific Partnership (TPP). The TPP was initiated to help fulfill President Obama's goal of doubling US trade by 2015.

The TPP is expected to be a regional trade agreement involving Asia-Pacific nations: The US, Australia, Brunei, Chile, Malaysia, New Zealand, Peru, Singapore, and Vietnam.

The TPP FTA will be a high-standard and broad-based agreement that consider not only trading relationships, but human rights, intellectual property right protections, etc.

In 2010, the US conducted four rounds of negotiations with prospective partners; a total of six negotiating rounds are scheduled for 2011. The USTR's goal is to reach outlines of an agreement that can be announced by the nine-member FTA at the APEC (Asia-Pacific Economic Cooperation) Meetings in Honolulu, Hawaii in November of 2011.

For more information on the TPP, visit <http://www.ustr.gov/tpp>.

European Union

The European Union concept first arose following World War II. Initially, six European economies (Belgium, France, Italy, Luxembourg, the Netherlands, and West Germany) formed the European Economic Community (EEC) in 1958, and other nations acceded to the community over the years. The 1993 Maastricht Treaty transformed the EEC into the European Union (EU) that we know today. The EU operates under the direction of several supranational institutions and using intergovernmental decision-making. The EU now represents a unified market that operates with a standardized set of rules. It is intended to facilitate the free movement of people, goods, services, and financial capital. The EU has a central bank (with limited powers), a parliament, and several important commissions and councils. In 2011, the EU had a population of 500 million, and its gross domestic product (GDP) of \$17.6 trillion comprised about 20% of world GDP.

At the end of 2011, the European Union was comprised of the following 27 nations: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, German, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherland, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.

Eurozone

The idea of a common currency (the euro, symbol €) surfaced formally for the EU in 1969. However, the 1993 Maastricht Treaty called for the formal establishment of common currency area by January of 1999. Initially, the euro was just an accounting currency, but actual notes and coins were finally issued at the beginning of 2002. At that time, 12 EU members joined the Eurozone. Only those EU members that meet the economic and financial criteria that were established by the Maastricht Treaty can adopt the euro as their currency and join the Eurozone.

Monetary policy of member countries in the Eurozone is guided by the European Central Bank (ECB). Nevertheless, the Eurozone does not reflect the type of integrated economic and financial system that is the United States does with the Federal Reserve Board responsible for monetary policy and the US Congress responsible for fiscal policy—with all individual states subordinate to those policies. Even with the ECB and

European Parliament in place, in the case of the Eurozone, each member nation's parliament and central bank manages their fiscal and monetary policy, respectively.

At the end of 2011, the following 17 members of the EU used the euro as their currency and were in the Eurozone: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

Social Costs and Benefits

Rational economic agents engage in transactions to derive personal or private benefits. In certain cases, the costs incurred from such transactions are limited to the parties directly involved in the transaction. In other cases, a transaction may produce costs for those not directly involved in the transaction. In the former case, we say that total or social costs are equal to private costs. In the latter case, we say that total/social costs are greater than private costs and that the difference between social and private costs is accounted for by a “negative externality.” An example of the former is when one kid purchases a cookie from another kid in the neighborhood. The cost incurred by the seller is paid by the buyer, and the benefit incurred by the buyer’s consumption of the cookie is limited to the buyer/eater. A case of the latter is a smoker’s purchase and consumption of cigarettes. The purchaser pays the manufacturer for the cost incurred to produce the cigarette, but the purchaser is not obliged to pay those in the immediate environment who may be harmed by the second-hand smoke that is produced when the cigarette is consumed. In this case the social/total cost (cost of manufacturing and the health costs of second-hand smoke) exceeds the private cost (the cost to the buyer of the cigarette).

There are also cases where social/total cost is less than private cost—the difference being accounted for by a “positive externality.” For example, a private citizen pays for the construction of a bridge across a stream so that access can be gained to a home, which is the first to be built in a newly developed area. Later, when other homes are built in the area, the bridge provides a benefit (access) for new home owners, but they incur no cost for the bridge. If we assume that the initial homeowner would not have constructed the bridge unless the total cost of the bridge was less than or equal to the benefit that would be derived from the bridge, then we can conclude that the total/social cost (paid by the initial homeowner) is less than the total/social benefit (benefit to the initial and subsequent home owners).

There are two standard approaches to bringing social costs in line with private costs. In the case of a negative externality, a tax may be imposed to reduce consumption so that social costs are reduced to the point where they are equal to social benefit. In the case of a positive externality, a subsidy may be awarded to expand consumption to the point where social cost rises to equal social benefit.

Imbalances between social costs and benefits become a concern in analyzing nations in the Asia-Pacific Region when countries make economic decisions that impose costs on other nations. For example, a nation that is located along the upper reaches of a river may impose a severe cost on nations that are positioned along the lower reaches of the river by building a dam which reduces the flow of water, or establishes manufacturing operations that send pollution down the river.

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