Economics – Fundamentals Domain

SSEF4 Compare and contrast different economic systems and explain how they answer the three basic economic questions of what to produce, how to produce, and for whom to produce.

a. Compare traditional, command, market, and mixed economic systems with regard to private ownership, profit motive, consumer sovereignty, competition, and government regulation.

Economic systems are models economists use to explain how decision-makers in an economy are likely to view certain economic principles. While economists identify **traditional, command, and market** as the three distinct economic systems, real world economies are usually "**mixed**". That is, real world economies have some characteristics of all three economic systems, but tend to lean toward one of the three. Before we examine how each economic system regards the economic principles in this element, let us define each. **Private ownership** refers to the ability of individuals and businesses in an economy to buy, sell, and hold property as they wish without fear government interference or seizure. The profit motive incentivizes entrepreneurs to take the risk of starting a business. **Profit** is the amount of revenue (price times quantity sold) received by a business minus the costs of operating the business. If the revenue is greater than the cost of operation, the business will make a profit and the entrepreneur will receive the profit. This potential reward for the entrepreneur drives them to start businesses. **Consumer sovereignty** determines the goods and services an economy produces because businesses will only produce those products that consumers are willing to buy. **Competition** refers the characteristics and behavior firms in a particular market or industry. Finally, **government regulation** refers to the extent to which a central authority has control over the production and consumption decisions in an economy.

In a **Traditional Economy** property rights are based on historical property rights and transfer of property would follow traditional rules of the culture. People who provide goods and services most likely provide the same good or service their ancestors provided. It would be difficult for someone to work in a field other than the one his or her ancestors had. The production of goods and services is based on what has always been produced so changes in consumer taste for new goods and services would not change the goods and services produced in the economy. There may be more than one seller of a particular good or service, but the sellers are likely to continue operating the same way their ancestors operated so it is unlikely that competition will lead to lower prices or a more efficient use of resources. Traditional leaders, like councils of elders or tribal chiefs, will typically be in charge of moderating disputes between members of the community. They will make their decisions based on how the culture has decided in the past.

In a **Command Economy** property rights, if any, are insecure since central planners make all economic decisions. Property seizures are common if the central planner thinks the property should be used in another capacity. Little opportunity to pursue individual rewards since all economic decisions are made by a central planner. Small businesses, if allowed, will likely return a large percentage of profits to the central government. Individual consumers have little say in what businesses or government producers offer as goods and services. They may be told how much of each good or service they are allowed to have. Even if consumers have money available to buy, there may be shortages of the more desirable goods because the central planners did not authorize the right level of production. Since the government is the producer of most goods and services, there is little or no competition among individual firms. This means there is little incentive to innovate, lower prices, increase quality, or use resources efficiently. The government or central planner makes almost all decisions about the production of goods and services in the economy.

A **Market Economy** is one where property rights are strong. Individuals and firms own all the factors of production. If a government exists, its main role is to apply the rule of law governing property rights to all property disputes in a fair and equal way. The profit motive incentivizes individuals to start new businesses and to make their businesses efficient. Firm owners will be able to keep most or all of their business profits. Firms produce only the goods

and services they think consumers are willing and able to buy. Products that do not sell will be discontinued and firms will increase the quantity supplied of products that are popular with consumers. There is a high level of competition because firms can freely open and close businesses. The entry of new businesses in the market for a product incentivizes firms to lower prices, increase quality, and/or become more efficient with resources. Government regulation is minimal. If regulation exists, the focus is on protecting property rights, ensuring high levels of competition, and protecting consumers from harm.

In **Mixed Economic Systems, i**ndividuals and firms can own property and the rule of law decides property disputes. Government can also own property to provide public goods and services. Government will sometime seize property and pay the owner fair market value if the property in question is to be used for an essential public good or service. Entrepreneurs can freely start businesses, but will usually be required to pay a certain percentage of their profits in taxes to the government. Businesses will usually produce what consumers want to buy. However, government may recognize that certain public goods and services will not be produced in great enough quantity by the private market and will produce the product as a public good or service. High levels of competition are encouraged, but government may allow certain monopolies to exist if there is a compelling reason to have one producer of the good or service. The government may require licenses and government paperwork to start the business. Businesses may have to follow government labor, consumer safety, and environmental laws.

b. Analyze how each type of system answers the three economic questions and meets the broad social and economic goals of freedom, security, equity, growth, efficiency, price stability, full employment, and sustainability.

Each economic system answers the three basic economic questions in a different way. The three main economic questions are what to produce? How to produce? And for whom to produce?

In a Traditional economic system the economy will produce the goods and services it has produced for generations based on what the ancestors produced. The economy will pass the same production methods used in the past from generation to generation. Goods and services are distributed using the methods used by past generations.

Command economies will produce what the government or central planner says it will produce. The economy will produce using whatever methods the government or central planner says it will use. The economy will distribute the goods and services to whomever the government or central planner says should get it.

In a market economy, firms will produce what they believe consumers will want to buy. Firms will produce goods and services using methods they believe will result in selling goods and services for the most profit. Individuals and firms in the society who are willing and able to pay the price of the good or service will obtain it.

Many firms will produce what they believe consumers will want to buy, but government may restrict the production of certain goods or produce public goods in Mixed Economies. Firms will try to produce goods and services using methods they believe will result in selling goods and services for the most profit, but the government may tax firm profits or mandate production processes that minimize harm to the public. Individuals and firms in the society who are willing and able to pay the price of the good or service will usually obtain it, but the government may restrict some people from accessing certain goods or may decide to produce a public good for specific people in the society.

Social Economic Goals

The social economic goals are the values underlying the economic system a country chooses and act as a guiding force as individual, businesses, and governments in the economy make economic choice.

Economic freedom refers to the ability of consumers, producers, and workers to make their own decisions about consumption, production, and distribution of goods and services. The more individuals and businesses make these decisions, the more economic freedom exists in the economy. Market economies tend to have a great deal of economic freedom while command economies may limit economic freedom in favor of more equal distribution of wealth.

Economic equity refers to fairness within the economy. There is a lot of debate in public policy about what is fair. Some people define fairness as equal access to jobs, goods, and services. Others define fairness based on outcomes. For example, if someone works hard to start a successful business, many believe that it is “fair” for that individual to keep

the profit from that business. Market economies pursue this goal by ensuring competitive markets and protecting property rights. Command economies pursue this goal by redistributing wealth and ensuring everyone's access to public goods.

Economic security has to do with protecting individuals and businesses from risk. In a market economy, individual workers and business owners are usually responsible for themselves during challenging economic circumstances. They protect themselves through insurance available in the private market or by saving money for the future. In command economies, the government provides security through government insurance programs, guaranteed jobs, and housing/food allowances.

Economic growth is increasing production of goods and services over time. This occurs through increases in factors of production or new technological innovations. Most countries measure growth through calculating the percentage change in real GDP from one period to the next. Real GDP is the total value of all final goods and services produced within a nation in a given time period adjusted for inflation. Although both command and market economies are capable of growth, command economies are capable of growing rapidly, using within targeted sectors, when guided by a central planner. Market economies may grow more slowly, but growth tends to be more sustainable through the organic forces of supply and demand within markets instead of arbitrary targets.

Economic efficiency when factors of production are allocated to their most productive use. The most efficient economies have fully employed resources, specialize in goods and services for which they have the lowest opportunity cost, and have high levels of competition in the market. Market economies tend to be very efficient due to competition and free trade. Supply and demand allows price to ration factors of production, goods, and services and allocate them to the most efficient uses. Command economies may be less efficient since there is no competition if government owns all the productive resources, everyone has to have a job, and no profit motive drives the people to reduce the costs of production.

Price stability refers to an economy making sure that increases in the overall price level of goods and services in the economy is predictable and protects the purchasing power of money in the economy over time. In the U.S. economy, the Federal Reserve system uses monetary policy, tools to increase or decrease the quantity of money in circulation, to target a predictable inflation rate of 2%. In market economies, price levels can fluctuate with increases and decreases in the business cycle, rising significantly in expansionary times and falling drastically in times of financial crisis. Command economies are more likely to have central authorities who take action against rising or falling price levels through fiscal or monetary policy.

The goal of **full employment** seeks to ensure that all those who are willing and able to work have the opportunity to do so. In the U.S., full employment is typically an unemployment rate between 4% and 6% depending on economic conditions. The unemployment rate is never zero because of people moving from one job to another or people graduating from an educational program and looking for a job. Market economies can achieve full employment during strong expansions, but will often suffer high levels of unemployment during contractions. Command economies will try to ensure full employment, but will often employ resources in less efficient uses and pay income much lower than that found in a market economy.

Economic sustainability usually refers to the goal of individual countries to maintain an upward trend of real Gross Domestic Product growth in the long-run. For highly developed countries, the goal for long-run real GDP growth trend desired may be 2-3% while it may be much higher for developing countries. To achieve these targets, countries must make decisions and create conditions benefitting the economy for the long term as well as the short term. There are many viewpoints about sustainability, but some of the considerations in building a sustainable economy could include food systems, environmental protection, new business creation, technological development, and the health of the overall financial system. In market economies, sustainability is a goal if firms believe it is in the firm's self-interest to pursue sustainability. In command economies, the government or central planner will determine the type of sustainability to pursue.

c. Compare and contrast strategies for allocating scarce resources, such as by price, majority rule, contests, force, sharing, lottery, authority, first-come-first-served, and personal characteristics.

The third basic economic question all societies must answer is for whom to produce. **Allocation strategies** are the methods available to societies as they seek to answer this question. First, it is important to describe each of the strategies and then compare the benefits and costs of using one over another.

- **Price:** This refers to allowing the forces of supply and demand to determine a market price. Supply is the amount of a good, service, or factor of production a seller is willing and able to sell at each price. Demand is the amount of a good, service, or factor of production that a buyer is willing and able to purchase at each price. The price at which the quantity demanded by the buyer is equal to the quantity supplied by the seller is the market price. This allocation strategy allows rationing of a resource based on who can afford the price set by the market. The more desirable and relatively scarce the item, generally, the higher the price. This method is efficient because one can easily tell whether he or she can obtain the good, service, or factor of production based on his or her willingness and ability to pay the price. However, this method will exclude people from markets if they lack the money to pay the price.

United States Example: If one would like to obtain a banana, one must pay the price per pound indicated by the grocery store. If one has no money, one gets no banana.

- **Authority:** This strategy is based on the decisions of a person in power or group of people who make most of the decisions about who gets to obtain a good, service, or factor of production. This allocation strategy allows for quick action because a person or a group of people in power can make and implement the decisions quickly.

United States Example: Elected representatives have the authority to pass legislation requiring workers to pay a tax on the income they earn.

- **Force:** When allocating by force, goods, services, and factors of production are given or taken away under using threats. In countries where the government makes and carries out decisions by force, economic changes can happen quickly because the government decides how to distribute all items and enforces the decision through military/police power.

United States Example: In the United States, most people are free to choose the work they would like to do. However, when the United States had a military draft during the Vietnam War, the United States arrested those who did not report for military duty.

- **Lottery:** This allocation strategy, also known as random selection, gives everyone who wants the good, service, or factor of production equal odds of obtaining it. This strategy can be inefficient because it may allocate the resource to a purpose or person who does not need it or who will not put it to a productive use. If the government randomly selects individuals to receive farmland, the land may go to someone who has no knowledge of farming techniques and the land resource may be underutilized.

United States Example: In the case of conscripted military service, force was not the only allocation strategy employed. The photograph below shows the lottery held in 1940 to select the first group of Selective Service registrants for the newly initiated draft. Secretary of War, Henry Stimson, chose the first number from the bowl and it was 158. Nationally, 6,175 men held the number 158. All of them had to report to their local draft board for assessment of their military service fitness.

- **First Come, First Served:** This allocation strategy allows people to receive a good, service, or factor of production if they get to it first or are one of the people close enough to the front of the line to receive the good, service, or factor of production before there are none remaining. This can be an inefficient strategy since the time spent waiting in a physical or virtual line took time away from more productive activities.

United States Example: At one time, a teenager who wanted to take the driver's license road test had to arrive early and get in line for the opportunity to take the test. The aspiring driver might wait in line all day for the test. Now, the Georgia Department of Driver's Services allows potential drivers to schedule a road test for a specific date and time, eliminating the first come, first served strategy and improving efficiency.

- **Majority Rule:** This strategy occurs when a group of people who have control over a good, service, or factor of production vote to decide how it will be distributed. In the best case, the vote will have a significant majority in favor of the decision and the decision will be in society's best interest. However, if the majority has a small margin, many people may be unhappy with the decision. If the majority is corrupt or makes the decision based on favoritism or fear, the good, service, or factor of production allocation may not be efficient.

United States Example: National, state, and local governments sometimes vote to establish public parks and greenspace. In some cases, there are citizens who would rather the land be used for commercial production. When the majority of elected representatives vote for the public land use, those who favor private ownership of the land are unable to access the factor of production.

- **Personal Characteristic:** This allocation strategy allows resources to be distributed based on need or merit. Ideally, the person who gets the good, service, or factor of production is the one who will put it to the best use. However, personal characteristics can be barriers to keep certain individuals from receiving the allocation.

United States Example: Many college scholarships are given out based on either the needs of the students are their merit for the award.

• **Contest**: This allocation strategy can distribute the resource to the person who wins. The "winning" could be based on running a race (who is fastest), in academics (valedictorian has the highest GPA), or in a test of knowledge/skill (Jeopardy contestant or chess champion). This strategy can be inefficient on a day to day basis. You don't want to run a race to see who gets the last slice of pizza in the cafeteria. It would take too long.

SSEF5 Describe the roles of government in the United States economy.

a. Explain why government provides public goods and services, redistributes income, protects property rights, and resolves market failures.

Federal, state, and local governments in the United States are involved in the economy. Invention includes providing public goods and services, redistributing income, protecting property rights, and resolving market failures.

Governments in the United States usually produce **public goods and services** only when there is a reason that the private market is unable to provide the good or service at a level considered beneficial to society. The most common way to pay for public goods are through the collection of tax dollars. There are two main characteristics of purely public goods. They include "shared consumption" goods also known as "non-rival" good. This means the consumption of the good by one person does not diminish the satisfaction enjoyed by another consumer who consumes the exact same good. For example, public interstate highways are used by one driver without decreasing the benefits enjoyed by another driver. A non-example is a piece of gum. We are unlikely to get the same benefit as someone else by chewing the same piece of gum. In fact, we are unable to chew the same piece of gum as someone else at the same time. The other characteristic is non-exclusion. **Non-exclusion** means that it is difficult or impossible to keep a person who is unwilling to pay from enjoying the benefits of the public good. For example, the federal government provides national defense to everyone who resides in the United States regardless of whether they pay for protection. (They become in economic terms, a **"freerider**". A free rider enjoys the benefit of a good without incurring the cost of paying for it.) In the case of a piece of gum, a non-example, I cannot have it unless I pay for it at the store. However, one can drive on most United States interstate highways even if one does not pay any taxes.

The chart below shows examples of public goods or services for each level of government in the United States.

Level of Government	Public Goods and Services	Purpose
Local & State	Public Education	Produce productive workers for the economy
Local, State, and Federal	Courts	Mediate Disputes, prosecute criminal cases to protect public safety
Federal	National Defense	Secure the borders of the country, protect citizen safety

When pursuing the social economic goal of equity, governments in the United States may choose to **redistribute income**. This involves taking tax money from one group of individuals or firms and giving it to other individuals and firms. These transfer payments include things like social welfare payments to low income citizens, unemployment compensation to those laid-off during a recession, or Social Security payments made to retirees. These payments subsidize the income of recipients to allow the consumption of necessities. In some cases, there may be redistribution to higher income people such a tax credits for buying electric vehicles.

In a market economy, the protection of **private property rights** is essential. If consumers and businesses are uncertain of their ability to retain property, they are less likely to purchase goods or invest in and expand their businesses. Property rights are protected by intellectual property laws such as copyrights and patents, legal documents like deeds for real estate or titles for cars, and business licenses or corporate charter recognize the legal owner of a business. In an economy that protects private property rights, the court system is available to hear property dispute and settles them based on an impartial “rule of law”.

Market Failures occur when the private market is unable to produce goods and services in a way that the marginal benefit to society from the production of the good is equal to or greater than the marginal cost to society for producing the good. Market failures include externalities and market power.

Externalities can be both positive and negative. They occur when a third party other than the consumer or producer of a good is hurt or benefits from the production or consumption of that good. For example, some industries cause air pollution while producing a product. If this pollution causes a local resident to get sick there is a negative externality. If your new roommate at college plays their iPod full of all your favorite singers/bands you get to enjoy it even though you did not purchase the songs, this is a positive externality. In the United States, government attempts to correct negative externalities like pollution through increasing taxes or regulations on the polluting industry. This makes it more expensive to produce the good and reduces the amount of production. In the case of a positive externality producing industry like colleges and universities, the government will provide subsidies to the institutions and to their students so there is an increase in amount supplied to the market.

Market power refers to a market failure resulting from the formation of monopoly and oligopoly market structures. Monopoly market structures are markets controlled primarily by one seller of a good or service, an oligopoly market is one controlled by several large firms. Under anti-trust laws in the United States, monopolies, and oligopoly firms who work together to fix prices or restrain competitors, may be prosecuted by the government and, in some cases, broken up into smaller companies. Economists are divided over the dangers of market power. Many believe that market power is fine as long as prices are reasonable and new competitors are not barred from entry into the market by unfair practices.

b. Explain the effects on consumers and producers caused by government regulation and deregulation.

Government regulation takes many forms. Overall, the goal of the government is to provide for the health and safety of its citizens and its businesses. Some regulations protect citizens from corporate abuse. Other government regulations help businesses recover from external problems by offering money to help offset an unforeseen disaster.

Examples of Increased Regulation:

The Sarbanes–Oxley Act of 2002 was a response to major problems with the accounting practices of large public companies. In the wake of corporate bankruptcies like Enron, Tyco, and WorldCom, Congress passed the act to regulate the way public companies handle their accounting. The purpose of the act was to increase the responsibility of the corporate board of directors for published financial records and to protect investors from financial loss due deceptive accounting practices.

On the consumer side, government may pass laws regulating the information companies must provide to consumers. As obesity has become more of a problem in the United States, some states now require certain restaurants to publish nutritional information so consumers can make better choices. Credit card companies must publish information about how long it will take customers to pay off debt.

Example of Decreased Regulation:

The Banking Act of 1933 or Glass-Steagall included many provisions connected with the U.S. banking system. Many believe, although there are those who disagree, that Glass-Steagall did not permit commercial banks to be involved in investment banking activities. In 1999, Congress repealed the parts of Glass-Steagall that many believed prevented commercial banks from acting as investment banks. This increased competition among financial institutions in the investment banking industry. However, some believe this increased risk-taking contributed to the Subprime Mortgage Crisis and Great Recession of the late 2000s.

SSEF6 Explain how productivity, economic growth, and future standards of living are influenced by investment in factories, machinery, new technology, and the health, education, and training of people.

a. Define productivity as the relationship of inputs to outputs.

Productivity looks at the relationship between inputs and outputs. An input is something that goes into making a good or service. For example, to make a cookie, a bakery must have ingredients like flour and sugar that come from natural resources like wheat and sugar cane. The baker must have capital resources like ovens and mixers to process the cookie dough. The baker needs labor resources to run the machines and serve the customers. The labor resources must have the appropriate human capital such as the ability to read the recipe, make decisions about when the baking of the cookies is complete, and how to package the cookies for sale to customers. If the baker is the owner of the bakery, he or she is the entrepreneurial resource who must choose to take a risk and decide how best to run the business. An output is the amount of a good or service produced. In the case of the baker described above, the cookie is the output. The baker wants to produce the right amount of output at the right price so he can make a profit. Increases in productivity occur when producers can produce more output with fewer inputs. This could occur because an entrepreneur finds ways to use his inputs more efficiently. For example, productivity might increase by using a recipe that requires less sugar, rearranging the production line to be more efficient, training labor resources to specialize in specific jobs, reducing the amount of inputs that are wasted in the production process, adding new, more efficient machinery or technology, or finding ways to motivate labor resources to produce more quickly.

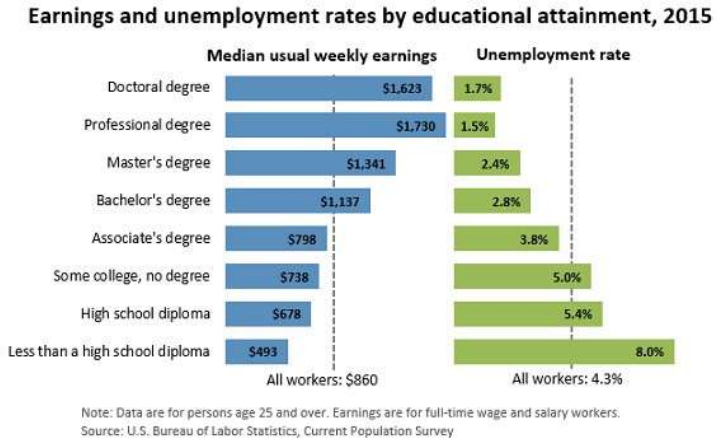
Productivity Using Conventional Oven	Productivity After Introducing High Tech, Large Capacity Oven
Productivity = $\frac{\text{Number of Cookies Baked}}{\text{Number of Minutes to Bake Cookies}}$ Productivity = $\frac{\text{24 cookies}}{\text{12 minutes}}$ = 2 cookies per minute	Productivity = $\frac{\text{Number of Cookies Baked}}{\text{Number of Minutes to Bake Cookies}}$ Productivity = $\frac{\text{48 cookies}}{\text{6 minutes}}$ = 8 cookies per minute
The investment in the high tech, large capacity oven increased productivity from 2 cookies per minute baked to 8 cookies per minute baked. This is a 400% increase in productivity.	

b. Explain how investment in equipment and technology can lead to economic growth.

For the purposes of this element, **investment** refers to the introduction of machines and **equipment**, the building of new factories, and/or the purchasing and implementation of new production technology. Both firms and government entities invest in **equipment and technology** leading to economic growth. Consider again the example of the bakery from the last element. The productivity increase from the new oven applied only to the bakery. Imagine the effect on the economy if many firms made similar investments leading to large increases in productivity. Consider a scenario in which governments also invest in equipment and technology, increasing productivity in public goods and services. If this increased productivity across the economy happens while keeping prices of goods and services relatively stable, there will be economic growth. Remember, we measure economic growth by the change in the real GDP from one period to the next. If the total value of final goods and services produced within the country's borders and adjusted for changes in the price level increases from one period to the next, there is economic growth in the country.

C. Explain how investments in human capital (e.g., education, job training, and healthcare) can lead to a higher standard of living.

Standard of living refers to the material well-being people in an economy enjoy. Usually, the higher the real GDP per capita a country has, the higher the standard of living of the people in that country will be. Remember, real GDP per capita is the value of final goods and services produced per person in an economy in a particular time period. As the output per person in the country increases, an economist would expect the amount of goods and service each person can consume to increase. In market leaning economies, the benefits of increases in real GDP per capita, are unequally distributed among the population of the country. The change in the standard of living for individuals in the economy will often depend upon the amount of **human capital** the individual members of the economy possess. Healthy, skilled, and well-educated participants in the economy are likely to enjoy a greater share of any increases in standard of living. For example, the chart below shows the relationship between educational attainment, weekly median wages, and unemployment. In most cases, the higher the education level, the higher the wage and lower the likelihood of unemployment. Since wages play a large role in determining the amount of goods and services individuals can consume, it is clear that more education means a better material well-being.

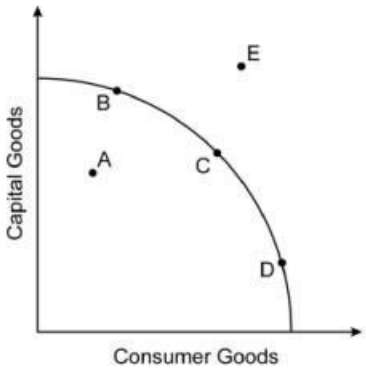


Bureau of Labor Statistics. (2016, March 15). Earnings & Unemployment Rates by Educational Attainment, 2015 [Digital image]. Retrieved April 10, 2017, from https://www.bls.gov/emp/ep_chart_001.htm

d. Analyze, by means of a production possibilities curve: trade-offs, opportunity cost, growth, and efficiency.

A **production possibilities curve** is an economic model used by economists to illustrate all possible combinations of efficient production available to an individual, firm, or country given the resources available to produce the two goods or services shown on the graph. The model shows the amount of one good or service sacrificed to produce additional units of the other good or service. The model also shows the production combinations that are inefficient or impossible given current resources. The example below demonstrates the analysis required.

Figure A



1. On Figure A, points B, C, and D indicate examples of efficient production combinations of capital goods and consumer goods. Any point on the curve falls into this category.

2. On Figure A, point A is an example of an inefficient production combination of capital and consumer goods. This point also represents unemployed resources and/or recession in the economy. This combination is possible, but undesirable given underutilized resources.

3. On Figure A, point E is an example of an unattainable production combination of capital and consumer goods because there are not enough factors of production to produce at this point.

4. Figure B shows the opportunity cost of choosing a particular combination of textbooks and computers over another possible combination. The opportunity cost of choosing point A over point B is 26 textbooks. The marginal benefit of moving from point B to point A is 4 computers.

Figure B

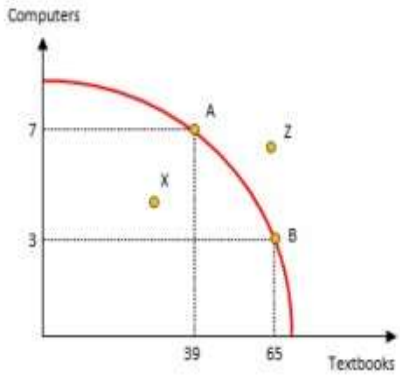


Figure C

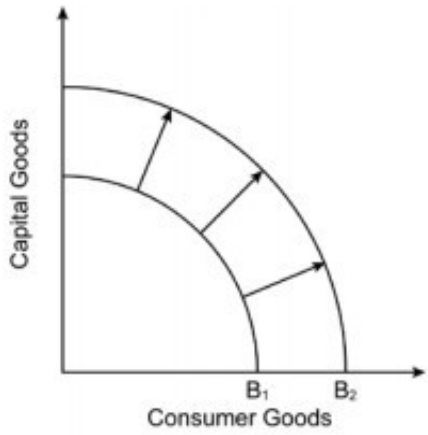


Figure C illustrates economic growth on the production possibilities model. Curve B1 shows the economy's original efficient combinations of capital and consumer goods production. Curve B2 shows the production possibilities curve for the economy following investment in physical capital and technology. For example, the U.S. economy experienced a shift outward like this after the construction of the interstate highway system in the 1950s. The interstate system was a government investment in physical capital that allowed more production of other capital goods and consumer goods. This happened because interstates made the transportation of inputs and outputs cheaper and faster for firms in the economy. Large-scale adoption of computers by industry in the 1990s would be another example of investment in physical capital and technology leading to economic growth.