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Macroeconomics

香港公開大學
THE OPEN UNIVERSITY OF HONG KONG

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Contents

Chapter 1 ECONOMIC SCIENCE

1.1 INTRODUCTION

The purpose of this topic is to look at the nature and purpose of the science of economics. The methodology is studied. A distinction is made between positive (or descriptive) economics and normative (or political) economics. Different branches of economics are classified. Some pitfalls of economic analysis are mentioned.

1.2 NATURE OF ECONOMICS

Economics is a social science that studies the human behavior in consuming, producing and distributing goods and services. It recognizes that productive resources are limited, and that all people's material wants cannot be satisfied. It seeks to find the most efficient utilization of productive resources for the purpose of attaining the maximum satisfaction of human material wants. Economics usually examines problems from the point of view of a society.

1.3 METHODOLOGY

The science of economics uses models. Models are simplified structures of the real word using many generalizations and assumptions. Hypotheses are first proposed. Each hypothesis is tested with empirical data. If verified the hypothesis becomes a theory, law or principle. Models are also used to make predictions.

> Economics is concerned with the material well-being of people. It seeks to explain why and how this is achieved.

1.4 MODELS

A model is a simplified structure of the real world which depends on various generalizations and assumptions. Models are used in descriptive economics to formulate principles and in political economics to propose policies.

> Usually, a model of an entire country requires that all workers be assumed to be exactly the same. All goods produced are also assumed to be the same, as if only one good were produced. Likewise, all tastes are assumed to be the same.

1.5 CETERIS PARIBUS

It is a common assumption which states that nothing else changes.

> The law of demand establishes the relationship between the quantity an individual is willing to buy, and price. It is usually necessary to keep income unchanged, and assume that tastes do not change. Otherwise, quantity could change because of changes in income or tastes, and nothing could be said about changes in quantity due to price changes.

1.6 DESCRIPTIVE ECONOMICS

The purpose of descriptive or positive economics is to study what is. Models are used to derive the theories, laws and principles which can be observed in the relationship between economic agents. Often the relationships are stated in mathematical terms and with the use of graphs. Two events which change in the same direction are said to be directly related (and inversely related if they change in opposite direction).

> The economist will, for instance, try to identify the factors which explain why firms wish to hire employees. That may be, for instance, the need to sell more products.

1.7 NORMATIVE ECONOMICS

The purpose of normative or political (or policy) economics is to study what should be. Forecasts are made using models. The predictions are then compared to commonly accepted goals of our society (such as that of full employment, economic freedom, equity) on the basis of standards, values or norms (such as a higher standard of living is desirable). Policies, or sets of recommended actions, are then derived from the comparison.

> Once the economist has determined that selling more products will cause firms to hire employees, he/she may recommend to elected officials needed actions to stimulate sales if many workers are unemployed.

1.8 ECONOMIC GOALS

The following is a list of the major economic goals: 1) economic growth, 2) price level stability, 3) economic efficiency, 4) full employment, 5) balanced trade, 6) economic security, 7) equitable distribution of income, and 8) economic freedom. Economic goals are not universally accepted, and their degree of importance can vary considerably among nations. In addition, economic goals are not always complementary. They may, in fact, be conflicting or mutually exclusive.

1.9 FALLACY OF COMPOSITION

One of the pitfalls of economic thinking, which results from stating that what is true for one is not true for all.

> One individual can find solitude in a forest. When many individuals seek solitude in the same forest, none will find solitude.

1.10 POST HOC FALLACY

The post hoc fallacy is an example of a pitfall frequently encountered when attempting to solve economics problems. It is the incorrect belief that when one event precedes another the first event is the cause of the second.

1.11 MACROECONOMICS

Macroeconomics is the study of relationships and policies as they relate to an entire country.

> Unemployment may affect everyone in the country to some extent. Another typical preoccupation in macroeconomics is what all the individuals of a nation want to buy. For instance, this will determine what firms should produce, and therefore how many people they should employ.

1.12 MICROECONOMICS

Microeconomics is the study of behavioral relationships and economic policies as they apply to individual participants (households and firms) in a market economy.

> Microeconomics is concerned with what one single individual will want to buy. Likewise, it is concerned with what one single firm may want to sell. Such a study may shed light, for instance, on how specific goods are priced.

1.13 GRAPHS

Graphs are used extensively in economics. They provide a visual representation of the relationship between two variables. The independent variable is usually on the horizontal axis of a graph, while the dependent variable is usually on the vertical axis.

1.14 DIRECT RELATIONSHIP

A direct (or positive) relationship occurs when two variables change simultaneously in the same direction. When two variables are directly related, the curve is upsloping as viewed from left to right.

1.15 INVERSE RELATIONSHIP

A inverse (or negative) relationship occurs when two variables change simultaneously in opposite directions. The curve of an inverse relationship is downsloping when viewed from left to right.

Review Quiz

1. A set of actions undertaken by a government to alleviate a problem or to further a society's goal, is known as a.....
2. That part of economics which is concerned with the behavior of specific economic units, such as firms or individuals, is .....
3. One of the pitfalls of economic thinking, which consists in asserting that what is true for one is true for all, is also known as
    1. fallacy of composition,
    2. ceteris paribus,
    3. generalization,
    4. inference.
4. Simplifications, generalizations, abstractions and statements of what is given, are all
    1. assumptions,
    2. principles,
    3. hypotheses,
    4. all answers are correct.
5. Which of the following is not usually considered as an economic goal?
    1. maintaining price stability,
    2. preventing terrorism,
    3. achieving high level of employment,
    4. striving for equity in income distribution.
6. The assumption that everything else remains unchanged, is known as
    1. ceteris paribus,
    2. rigidity,
    3. fallacy of composition,
    4. inflexibility.
7. That part of economics which is concerned with the economy as a whole, is known as .....
8. The name given to that part of economics, in which facts relevant to a certain problem are gathered in order to derive principles, is ..... economics.
9. Two causally related variables which move in opposite directions (i.e. one increases while the other decreases) are said to have a relationship which is
    1. discretionary,
    2. indirect,
    3. inverse,
    4. opposite.
10. A proposition which needs to be tested with empirical data before it becomes an accepted principle, is known as a .....
11. Two causally related variables which increase and decrease together have a relationship which is
    1. inverse,

2. direct,
3. fractional,
4. derivative.

Answer

1. POLICY
2. MICROECONOMICS
3. B
4. A
5. B
6. A
7. MACROECONOMICS
8. DESCRIPTIVE/ POSITIVE
9. C
10. HYPOTHESIS
11. B

Assignments

Describe the methodology of the economic science. Show how theories are developed and how they are applied.

Chapter 2 ECONOMIC PROBLEM

2.1 INTRODUCTION

The economic or economizing problem is identified to be the efficient use of scarce resources to meet the unlimited wants of society. The wants are verified to be unlimited. The resources are cataloged. The economic problem is studied with the help of the production possibilities curve which shows that a choice is necessary and that economic growth is only possible if resources are efficiently used and expanded.

2.2 UNLIMITED WANTS

The wants of individuals can be shown to be ever increasing by observing that items which are considered as luxuries often become necessities after a while.

> People never seem to be satisfied with what they have: they always want more. While this may appear to be greed it may simply reflect the desire of man to seek improvement.

2.3 NECESSITIES

Items which people cannot do without are said to be necessities. This would include basic food items, shelter and utilities, for instance.

> Everyone has a different set of items he or she cannot do without. Water food and shelter immediately come to mind. For a sick person a medication may also be a necessity.

2.4 SCARCE RESOURCES

Resources are both human and non-human. The human resource is primarily labor. Non human resources are land and capital.

The supply of all resources is just what we have today and increasing it in the future requires sacrifice.

> All resources are limited. One need only visualize a crowded downtown street to realize that the most desirable location are scarce. Capital is also in short supply because its production requires time and foregoing consumption goods. Even labor is not excessive because none of us have spare time to waste in our adult working years.

2.5 LABOR

Labor includes all forms of work. Such work often requires skills. Skills are enhanced with accumulation of human capital which consists of education, training, good health and mobility. The compensation or price for labor is known as wage.

> All forms of human endeavor require attention and effort. One may only hope that the work one has, is also pleasurable, but it is work nevertheless. That is why it is call labor. It is applicable to a ditch digger, as well as to a scientist, accountant, musician or artist.

2.6 LAND

Land is a free gift of nature. It includes a parcel of land as well as all that can be extracted from it (minerals, wood, agricultural products). Since only what is on earth is now available for man, land is, therefore, clearly restricted. The compensation for use of land is rent.

> It is sometime difficult to distinguish land from additions or improvements to land; these are not land, but capital. These additions and improvements can be further increased because they are the work of man. On a parcel of land, more and better houses can be built. But, land itself cannot be changed: it is just that parcel.

2.7 CAPITAL

Capital is all forms of means of production: factories, machines and equipment. Capital can be increased only by devoting resources away from consumer goods production. In addition, it often takes time and large sums of money. The compensation for use of capital is interest.

> A factory with many machines is what is needed to produce many goods, and that is what economists call capital. It is clear that the factory and machines have required substantial production, work and assets. But, these have not been consumed: they have been accumulated to permit production of other goods. While in common language, the accumulation of monetary assets is the focus of capital, for economists it is the physical capital which is important.

2.8 ENTREPRENEURIAL TALENT

Entrepreneurial talent or entrepreneurship, is the ability of a business owner (or business organizer) to put together all the necessary resources to make the production of goods or services possible. The compensation of entrepreneurial talent is profit.

> The United States is blessed with an entrepreneurial population. Approximately half a million businesses are formed every year. Unfortunately, the great majority fail the first year. Indeed, entrepreneurs have to take a big risk. But, the one who succeeds may one day own a major corporation.

2.9 PRODUCTION POSSIBILITIES CURVE

The production possibilities curve show the combination of two goods which can be produced by a country. The curve is concave (as viewed from the origin) because of the law of increasing cost. The curve is a boundary: outside is not achievable, but inside is inefficient.

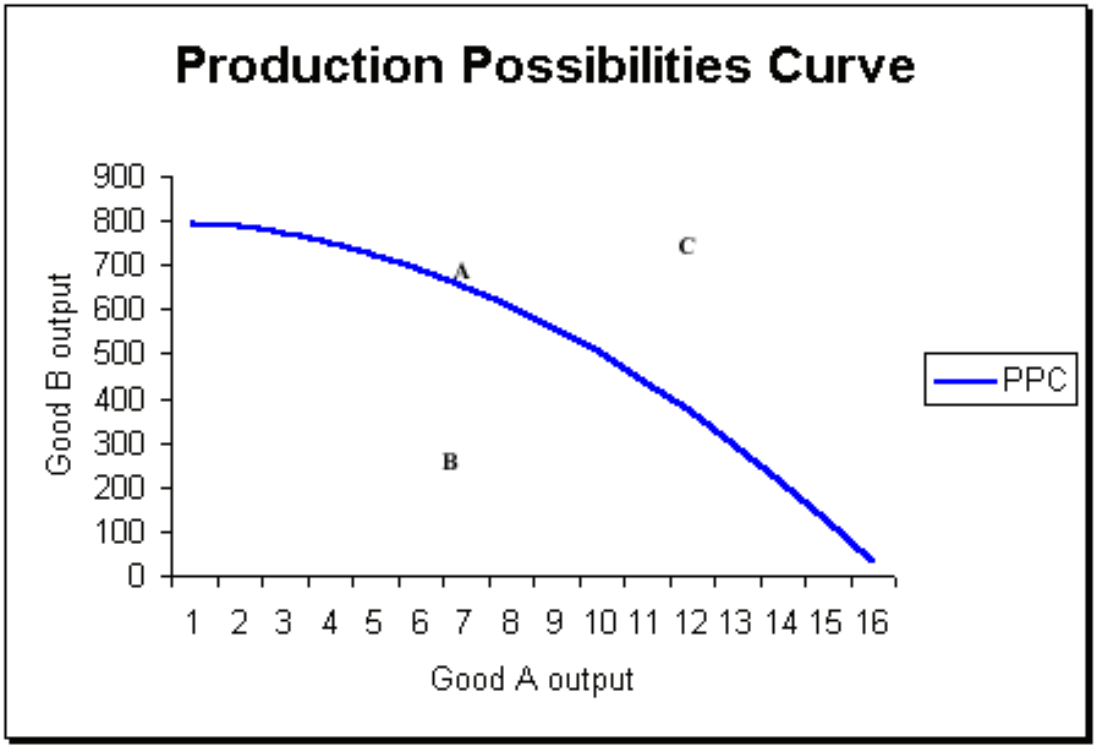


Figure 2.1 Production Possibilities Curve

A useful statistic calculated by the Commerce Department is plant capacity utilization. This statistic shows what proportion of our nation's productive capacity is being used, and therefore what proportion is left unutilized. These numbers can only be obtained if a measure of the total production capacity of the nation is estimated. This is one of the conceptual goals of the production possibilities curve.

2.10 LAW OF INCREASING COST

If a country attempts to increase the production of one good, it will have to give up an ever increasing amount of the other good because the resources are not equally productive in different productions. Because of this increasing opportunity cost the curve is concave (as seen from the origin). This imposes a difficult choice on each society in deciding which combination of goods best meets the tastes of its people.

Resources are NOT equally productive in different types of productions. They tend to be specialized. This is especially true for employees who are normally most productive using their best skills. If a nation attempted to increase the production of one good by shifting employees away from the jobs in which they are most productive, total output would decrease. That is stated in the law of increasing opportunity cost.

2.11 EFFICIENCY

Any point inside the production possibilities curve is causing resources to be either unemployed or underemployed. One of the goals of economics should be to avoid such situations and to seek maximum potential production and consumption.

> When the plant capacity utilization statistic reported by the Commerce Department is very low, it shows that the nation is not very efficient at utilizing its productive capacity. This indeed occurs during periods of economic slowdown: for instance, during the great depression of the 1930's.

2.12 ECONOMIC GROWTH

Points outside the production possibilities curve are not achievable without expansion of the available resources. This requires that some resources be directed to the production of capital goods (thus sacrificing some consumer goods). In addition, technological progress is also often necessary for expanding the use of the existing resources.

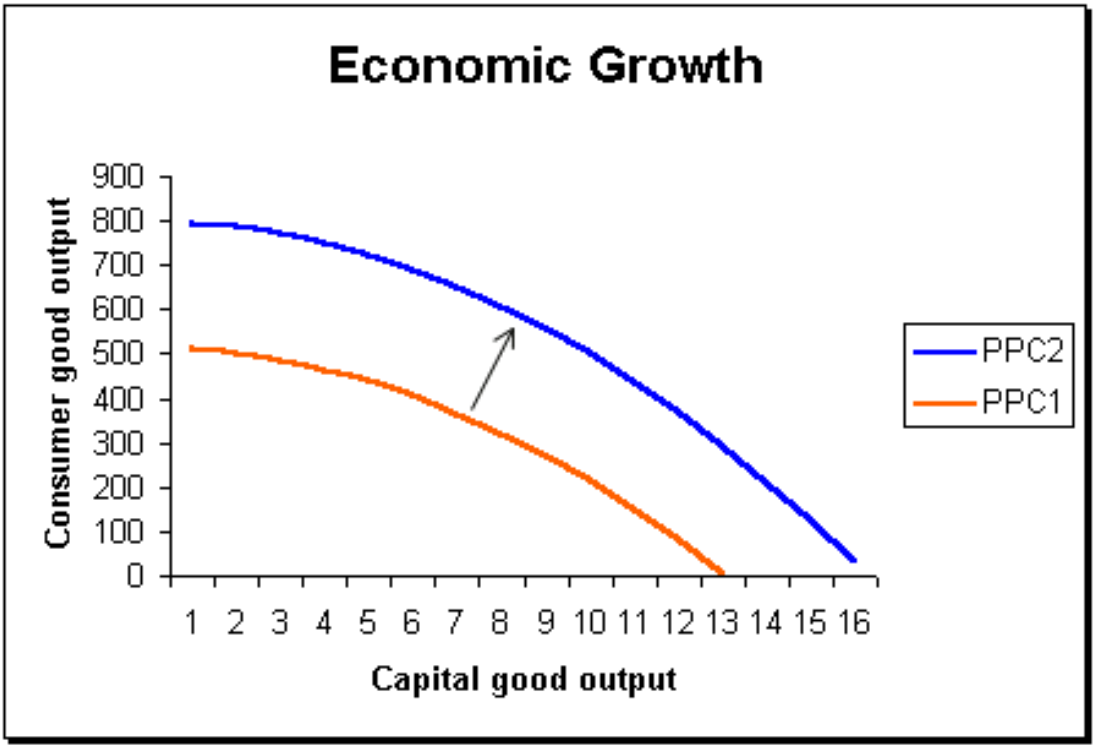
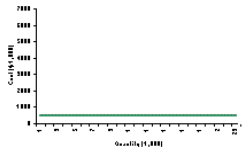


Figure 2.2 Economic Growth

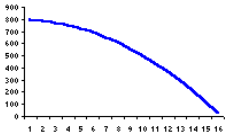
A study undertaken by Edward Denison revealed that the growth of the American economy has been attributable to increases in the factors of production (labor and capital in particular), but a large proportion of the growth is also attributable to improvements in productivity.

Review Quiz

1. Any point inside the production possibilities curve is
    1. inefficient,
    2. optimum,
    3. impossible,
    4. shows growth.
2. Which type of goods need to be produced today to assure increasing production of all goods in the future?
    1. superior goods,
    2. durable goods,
    3. inferior goods,
    4. capital goods.
3. What the economizing problem shows, is that our resources are
    1. unlimited,
    2. property,
    3. ever growing,
    4. scarce.
4. True or False: Over time, the goods which are considered luxuries often become necessities.
    1. true,
    2. false,
    3. no valid answer.
5. What does the production possibilities model tell us?
    1. economic growth is impossible,
    2. some resources will always be unemployed,
    3. society must choose among alternative goods,
    4. all natural resources will eventually be depleted.
6. What is the name given to "means of production"?
    1. assets,
    2. capital,
    3. equity,
    4. natural resources.
7. Which of the above figures shows a production possibilities curve?



1. **Figure 2.3 Figure A**



2. **Figure 2.4 Figure B**

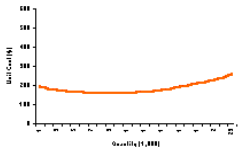
3. 

Figure 2.5 Figure C

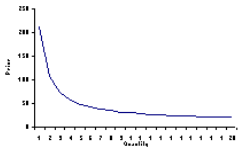
4. 

Figure 2.6 Figure D

8. Profit is the compensation for the use of which resource?
    1. land,
    2. capital,
    3. entrepreneurial talent,
    4. labor.
9. Which of the following is referred to as a human resource?
    1. raw material,
    2. land,
    3. capital,
    4. labor.
10. What is the name given to goods such as food, shelter and clothing, which most people cannot do without?.....
11. Profit is the compensation for the use of which resource?..... .....

Answer

1. A
2. D
3. D
4. A
5. C
6. B
7. B
8. C
9. D
10. NECESSITIES/ NECESSITY
11. ENTREPRENEURSHIP/ ENTREPRENEURIAL TALENT

Assignment

1. Outline the nature of the economizing problem. Carefully analyze society's wants and resources to verify the validity of the economizing problem.
2. Show how economic growth can be studied with the help of the production possibilities curve. Identify the various factors necessary for growth.

Chapter 3 DEMAND AND SUPPLY

3.1 INTRODUCTION

The purpose of this lesson is to reach an understanding of how markets operate, how prices are set and transactions occur. The two market forces of demand and supply are defined and explained. The equilibrium point is studied. Conclusions and applications are offered.

3.2 MARKET

Markets exist for the purpose of facilitating exchanges of products, services and resources. Buyers and sellers are brought together and convey their desire to buy or sell by stating their offered and asked prices for different quantities. Even if a transaction does not take place, information if translated in the pricing of the product.

> An example of a market is that of the New York Stock Exchange. Its purpose is to facilitate the purchase and sale of securities. The transactions are not performed by the buyers and sellers themselves, but by brokers and dealers on their behalf. Daily transaction prices are reported in many newspapers nationwide because markets also perform the important function of pricing of goods, or in this case securities.

3.3 DEMAND

Demand is the expression of willingness and ability of a potential buyer to acquire certain quantities of an item for various possible prices the buyer can reasonably offer. Demand can be thought of as a schedule of prices and quantities in the mind of the buyer.

> Dealers of the New York Stock Exchange keep books in which orders from various clients are entered: how many shares and at what price. Such a listing is an illustration of what investors are willing and able to buy.

3.4 LAW OF DEMAND

The law of demand postulates that the relationship between price and quantity in the mind of buyers is inverse. The law of demand is represented graphically by a downsloping demand curve. The law of demand is explained by the diminishing marginal utility, the income effect and the substitution effect; it can also be derived with the help of indifference curves.

> A retail store would certainly be most interested to know what its customers are willing to pay for what they want to buy. Such knowledge would allow the store to price its products most efficiently. This is the reason why market research is conducted to determine what customers want to buy and at what price.

3.5 LAW OF DEMAND REASONS

The law of demand can be explained by - price being an obstacle to consumption, - diminishing marginal utility, - price change income effect and substitution effect. It can also be derived from the diminishing marginal rate of substitution of indifference curves.

> All department stores have periodic sale days during which prices are reduced substantially. The purpose of this price reduction is to get rid of old merchandise and stimulate the buying by customers (who may purchase many other items as well). Thus, stores take advantage of the law of demand: merchandise which would otherwise be hard to sell, is sold because customers are willing to pay a lower price.

3.6 INCOME EFFECT

The law of demand can be explained by observing that an unexpected price change affects the purchasing power of consumers. If the price is lower than expected, income is liberated which allows the consumer to buy more. An unexpected price increase would cause the consumer to buy less.

> When a housewife goes to the supermarket to buy groceries and finds that one of the products she intended to buy, was reduced in price because of a special sale, it makes her feel wealthier. Indeed, she can buy more with the money she started with. This is the income effect.

3.7 SUBSTITUTION EFFECT

The law of demand can be explained by the substitution effect. If the price of a good is lower than expected, then, that good appears to a consumer as a bargain opportunity in comparison to the goods which remain at full price. The consumer will temporarily switch his/her pattern of consumption by substituting bargain items for full price items.

> Suppose a customer is undecided between pork chops and steak before entering a supermarket. If pork chops have a special promotion at a reduced price, while steak has not, that is likely to induce the customer to buy the pork chops with no remaining hesitation. This is an illustration of the substitution effect.

3.8 DEMAND GRAPH

The law of demand is represented graphically by a downsloping curve showing that when price decreases, quantity increases and vice versa.

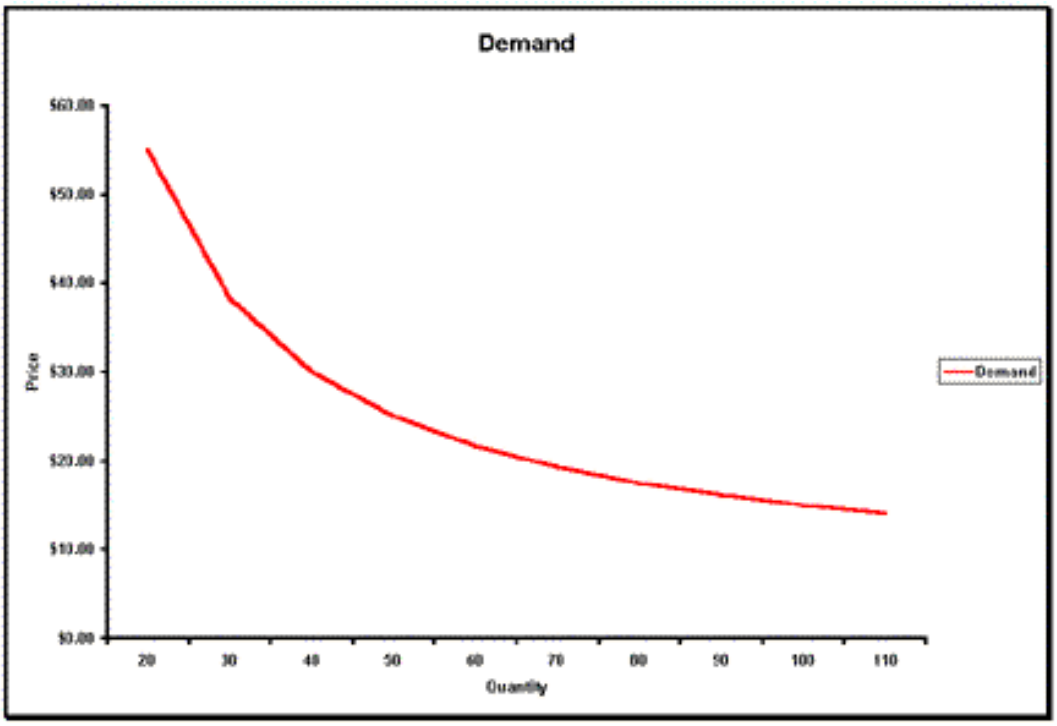


Figure 3.1 Demand

3.9 MARKET DEMAND

The market demand is the sum total of individual demands.

3.10 DEMAND DETERMINANTS

Price is the major determinant of the quantity demanded. The nonprice determinants of demand are:

- number of buyers,
- tastes,
- income,
- price of other goods (either complementary or substitute), and
- expectations about future prices.

> Advertising by companies shows that customers can be prompted to buy products for a great variety of reasons. The foremost inducement is still price.

3.11 INFERIOR GOOD

An increase in income will generally cause the consumption of most goods to increase: these goods are said to be normal (or superior) goods. There are a few goods for which the pattern is reversed: an increase in income causes a decrease in consumption. These goods are known as inferior or Giffen goods. Most often, these inferior goods are tied in the mind of individuals to hard times.

3.12 PRICE OF RELATED GOODS

The price of related goods affects the demand of an item in two opposite patterns depending if the goods are viewed by a buyer as complementary or substitute.

3.13 COMPLEMENTARY GOODS

Goods are complementary when their consumption is tied to each other. For instance, automobiles and tires: tires are sold because automobiles are sold and vice versa. The increase of the price of automobiles will cause fewer automobiles to be purchased, and thus, fewer tires as well. The relationship between the price of automobiles and the quantity of tires is inverse.

> Tires and cars, bullets and guns, lamps and lamp shades, cream and coffee, nails and hammers, nuts and bolts, are all items that go together. They are complementary goods.

3.14 SUBSTITUTE GOODS

Substitute goods are goods which can be replaced by each other in the mind of consumers. For instance, tea and coffee are for many (but not all) consumers interchangeable goods. If the price of tea goes up, the purchases of tea will decrease and the purchases of coffee will increase. Thus, the relationship between the price of tea and the quantity of coffee is direct.

> Butter and margarine, tea and coffee, taxi and bus, pen and pencil, hotel and motel, radio and record player, are all items which, for most people, can be replaced by each other. They are substitute goods.

3.15 QUANTITY DEMANDED

A change in any of the nonprice determinants will cause the entire demand of consumers to change. Graphically this can be shown as a shift of the demand curve to the right or to the left. These shifts in demand must be distinguished from movements along the demand curve caused by changes in price: these changes in price only cause the quantity demanded to change, but the entire demand schedule remains the same.

> The availability of new products can change the tastes of consumers. Not long ago, complex calculation used to be done with slide rules. With the arrival of hand calculators, slide rules no longer satisfied customers.

3.16 SUPPLY

Supply is the willingness and ability of sellers or suppliers to make available different possible quantities of a good at all relevant prices.

> Supply is what we have to offer. All of us have our time and skills to offer to our employers. For some of us, the number of hours of work may change from day to day or from week to week. Then, most often, if additional hours are required to be worked, we can expect a higher price, i.e., overtime pay.

3.17 LAW OF SUPPLY

The law of supply postulates that the relationship between price and quantity in the mind of sellers or producers is a direct one. When price increases so does quantity.

The payment of overtime shows that the more one is expected to supply, the more one can be expected to be paid. In some professions, extra hours over regular overtime are paid at even higher wage rates.

3.18 LAW OF SUPPLY REASONS

The law of supply is explained by

- price being an inducement for sellers or producers to sell more, and
- cost of production increasing (because of the law of diminishing returns).

3.19 SUPPLY GRAPH

The law of supply can be shown graphically by an upsloping supply curve. When price increases, quantity increases; thus, the direct relationship is verified.

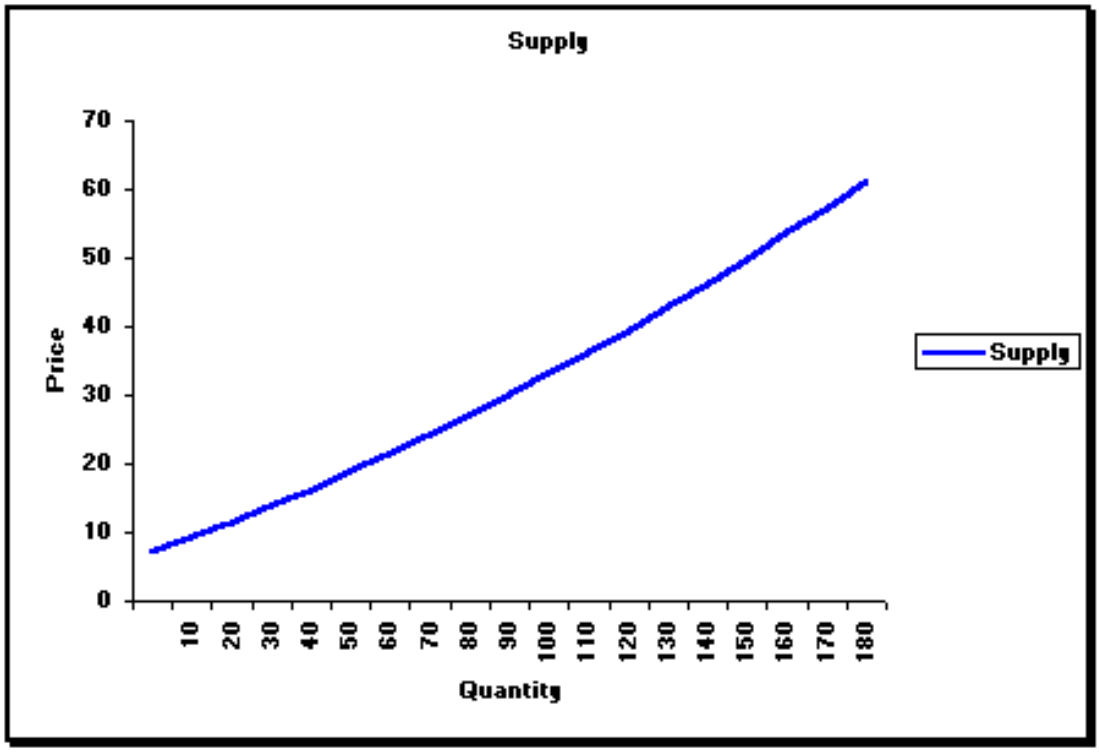


Figure 3.2 Supply

3.20 SUPPLY DETERMINANTS

Price is the major determinant of supply. Nonprice determinants are:

- number of sellers or producers,
- costs of production (including taxes),
- technology (since it affects costs),
- prices of other goods (as sources of possible profits),
- expectations (but the effect is ambiguous).

> Returning to the employee supplying his/her hours of work, the willingness of the employee to accept a changing work schedule is likely to depend on the time devoted to other needs (such as leisure, family, hobbies or studies). Nevertheless, the major determinant will be the price or wage expected.

3.21 QUANTITY SUPPLIED

A change in any one of the supply nonprice determinants will change the entire supply schedule and shift the supply curve. This shift of the supply curve is to be distinguished from the movement along the supply curve itself when price is changed: this only changes the quantity supplied (not supply).

3.22 EQUILIBRIUM

The price and quantity equilibrium is where demand and supply intersect. At any price above that equilibrium, the quantity supplied exceeds the quantity demanded, which results in a surplus (and no transaction between buyer and seller). At any price below, the quantity demanded exceeds the quantity supplied, which results in a shortage. Only at the intersection of demand and supply are the quantities demanded and supplied equal. The price and quantity equilibrium is stable.

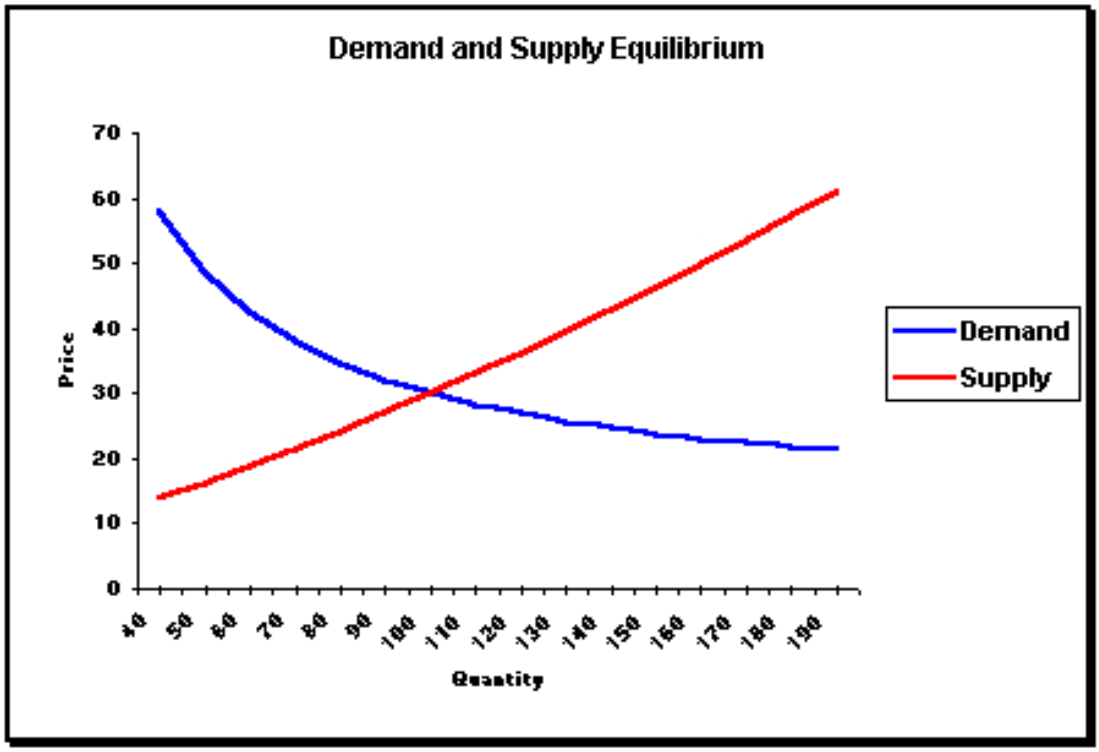


Figure 3.3 Demand and Supply Equilibrium

3.23 SHORTAGE

A shortage means that the quantity demanded exceeds the quantity supplied. A shortage exists if the price is below the equilibrium. If the market is free, the shortage will disappear as the price increases. The shortage will continue anytime the market is not free; for instance, if the government has instituted a price ceiling. If the price ceiling is above the equilibrium, it is not relevant and has no bearing on the market.

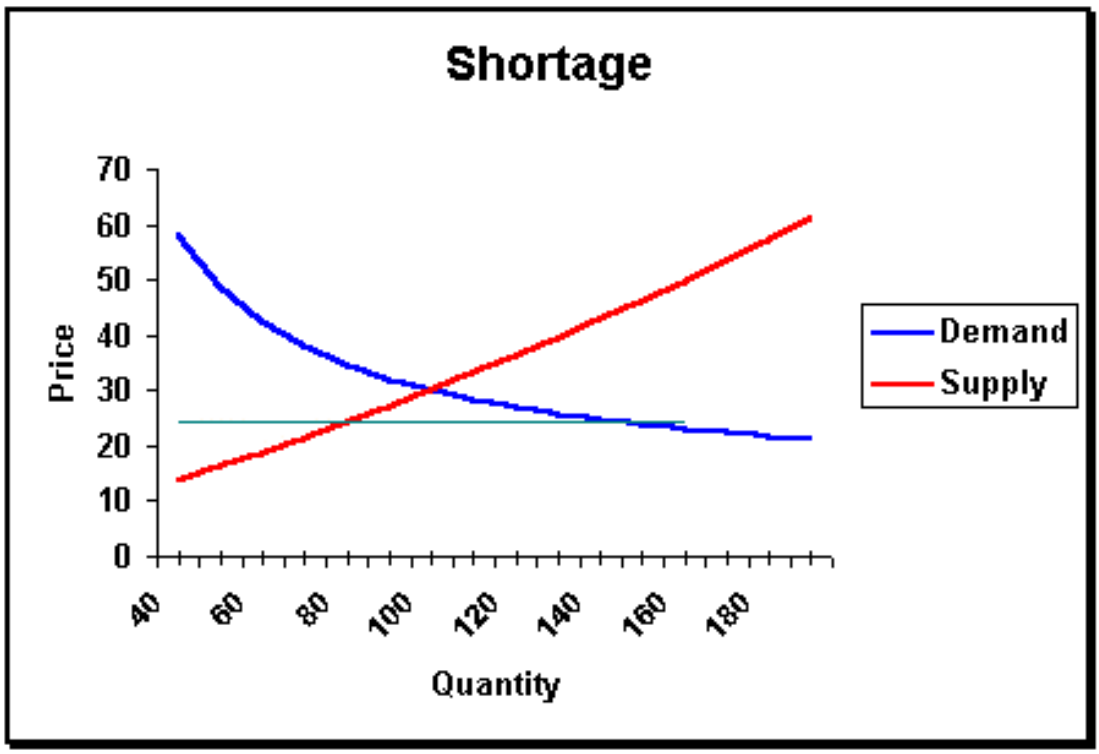


Figure 3.4 Shortage

Many cities have rent control laws to make sure that poor people can find apartments they can afford. But landlords do not find it profitable to rent at these prices and sometimes convert their buildings to condominium or cooperative ownership. This reduces the number of apartments available: it creates a shortage.

3.24 SURPLUS

A surplus means that the quantity supplied exceeds the quantity demanded. The surplus exists only above the equilibrium. If the market is free, the surplus will tend to disappear as the price is lowered. The surplus will continue only if the market is not free; that is, a minimum price has been instituted by government. If the minimum price is below equilibrium, it is irrelevant and has no bearing on the market.

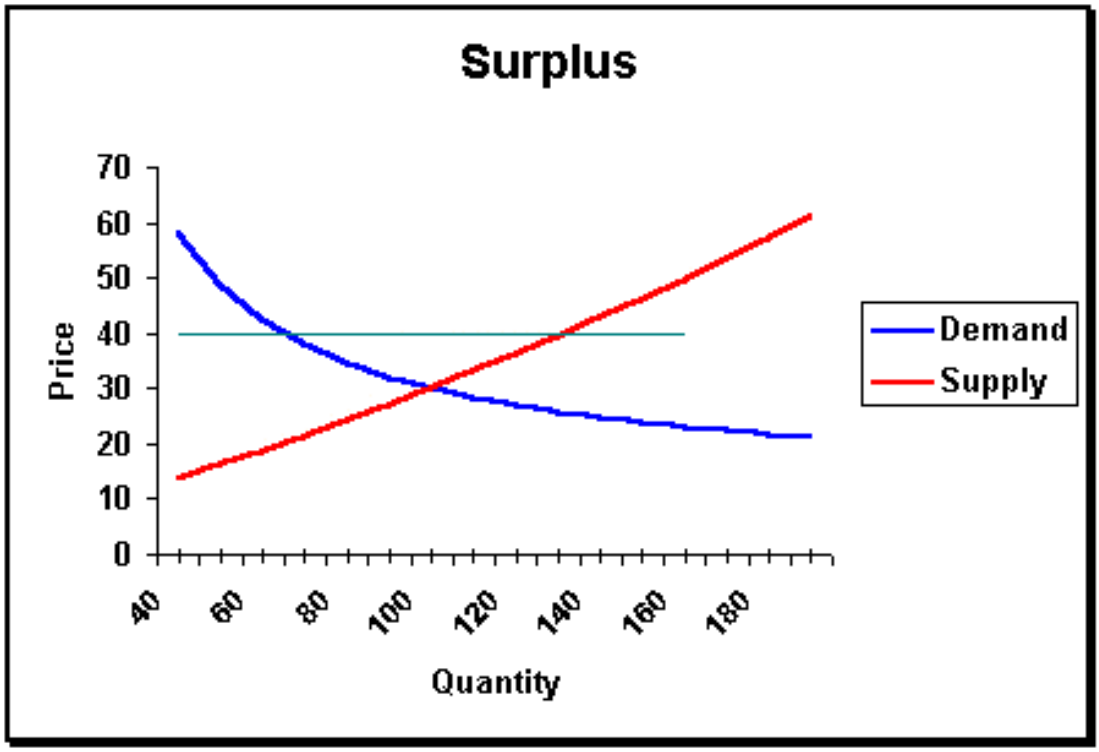


Figure 3.5 Surplus

Prices of many agricultural commodities, such as milk for instance, are subject to government price support. This higher price encourages farmers to produce too much: this creates surpluses. For instance, in the 1980's, the government has been forced to make cheese from milk surplus and to distribute that cheese free to poor people.

3.25 INDIFFERENCE CURVES

Indifference curves show the combinations of two goods that an individual would be willing to buy, and which would make him/her equally satisfied (or indifferent). Indifference curves assume that more is preferred to less. They are convex as seen from the origin. The indifference curves form an entire map of various levels of satisfaction.

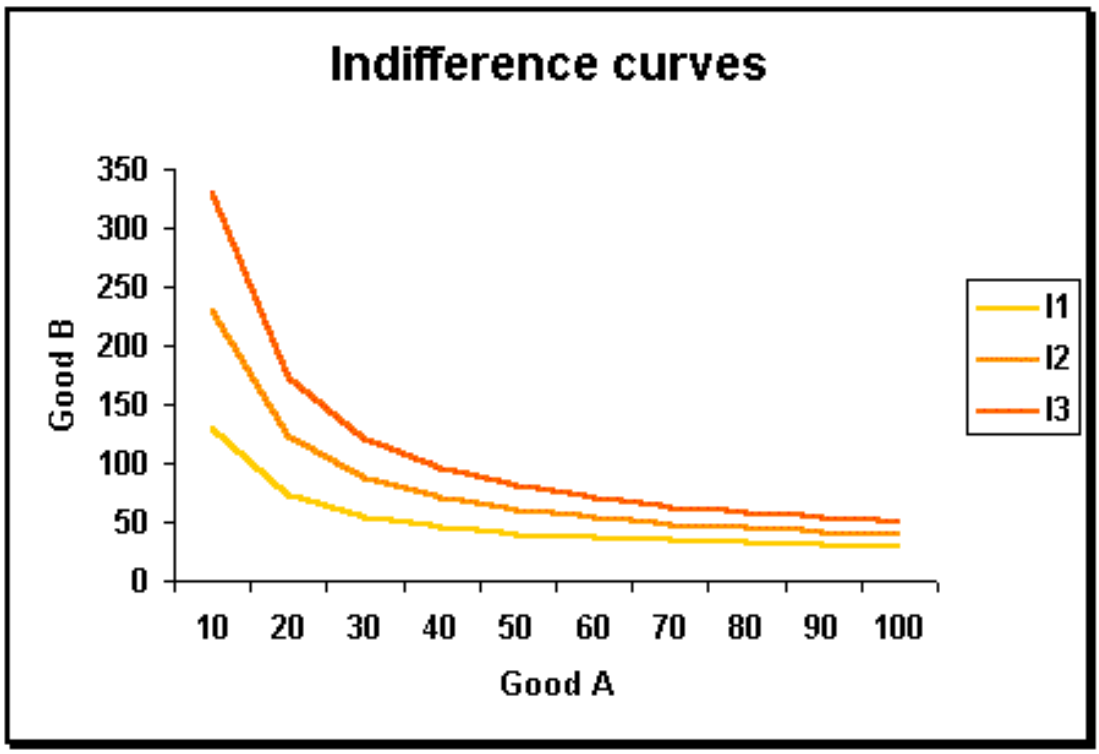


Figure 3.6 Indifference curves

The shopping list of any consumer would reveal that, beyond some minimum basic necessities, purchases are a matter of choosing between various items that can provide equivalent satisfaction. This pattern of equivalent satisfaction from the consumption of two selected goods is what an indifference curve portrays.

3.26 MARGINAL RATE OF SUBSTITUTION

The quantity of one good an individual must forego in order to increase the quantity of another good and leave the individual indifferent, is called the marginal rate of substitution. This marginal rate of substitution is shown graphically as the tangent to the indifference curve. The marginal rate of substitution is decreasing. This verifies that the indifference curves are convex as seen from the origin.

3.27 BUDGET LINE

A budget line is the locus of combinations of two goods an individual can afford to buy with his/her income. The slope of the line is the price ratio of the two goods: Pa/Pb or relative price of each good.

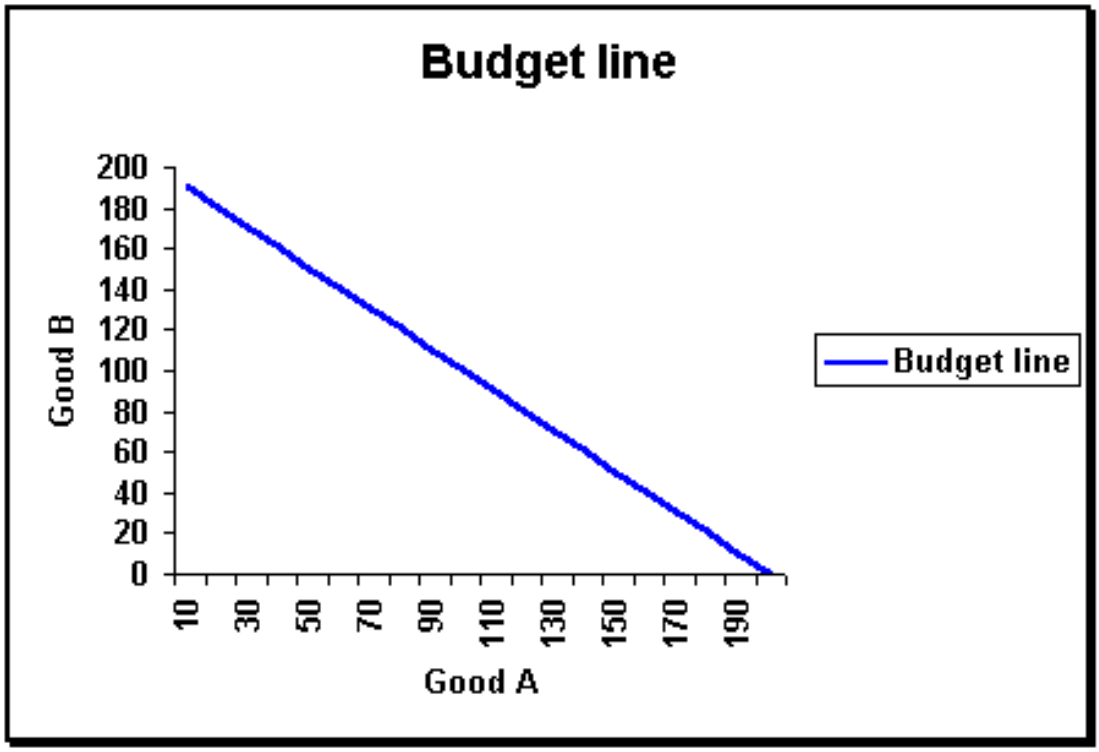


Figure 3.7 Budget line

A housewife going to the supermarket with a specific amount of money, knows exactly what is the maximum she can spend. The proportions of the different items can change.

3.28 POINT OF TANGENCY

The equilibrium point which will give most satisfaction to the consumer, and which the consumer can afford, is where the budget line is tangent to the highest indifference curve.

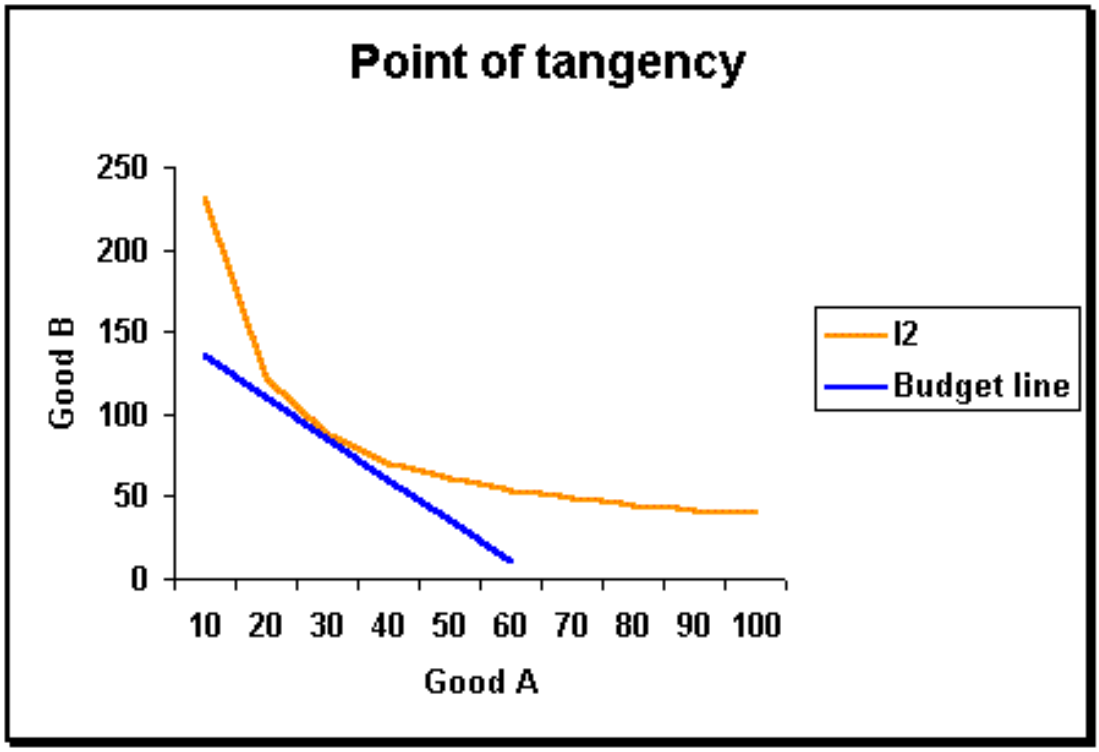


Figure 3.8 Point of tangency

3.29 DERIVATION OF DEMAND

Demand can be derived from the indifference curves by lowering (increasing) the price of one good and observing that the budget line will shift as a result, causing the point of tangency to reflect a larger (smaller) quantity purchased of that good.

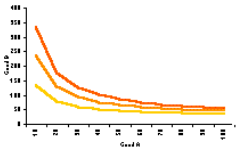
Review Quiz

1. The supply of goods is most strongly influenced by which of the following?
    1. producer expectations,
    2. price of related goods,
    3. resource prices,
    4. number of sellers in the market.
2. True/False: Decreases in both prices of the products included in a budget line do not shift that budget line.
    1. true,
    2. false,
    3. no valid answer.
3. In the indifference map, equilibrium occurs where the indifference curve is
    1. tangent to the budget line,
    2. at its minimum point,
    3. intersected by the budget line,
    4. at its maximum point.
4. When the quantity demanded of a good increases, its price is most likely to ..... .
    1. increase,
    2. decrease,
    3. remain unchanged.
5. An indifference curve represents
    1. purchasing patterns from two different suppliers,
    2. what two individuals would be willing to trade,
    3. how purchases are unaffected by prices,
    4. combinations of two goods giving identical satisfaction.
6. True/False: The law of supply proves there is no relationship between price and the quantity of a good supplied.
    1. true,
    2. false,
    3. no valid answer.
7. True/False: Technological improvements in the production of goods may result in a increase in quantity supplied and a lower selling price.
    1. true,
    2. false,
    3. no valid answer.
8. Which of the following is not an explanation of the law of demand
    1. substitution effect,
    2. diminishing marginal utility,
    3. bargain sales attitude,
    4. tastes change through time.

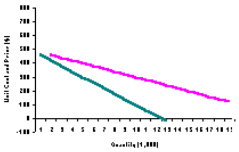
9. Which of the following statements is false concerning the marginal rate of substitution?
    1. it verifies that indifference curves are concave as viewed from the origin,
    2. it indicates a consumer's willingness to substitute goods,
    3. it is the slope of the tangent to an indifference curve,
    4. all of the answers are correct.
10. True/False: Indifference curves are used to explain consumer behavior.
    1. true,
    2. false,
    3. no valid answer.
11. When more buyers enter a market, prices tend to ..... .
    1. increase,
    2. decrease,
    3. remain the same.
12. Which of the following pairs is most likely to be made of substitutes?
    1. tea and sugar,
    2. bread and butter,
    3. bus and subway,
    4. hat and glove.
13. True/False: More goods are supplied at higher prices than at lower prices.
    1. true,
    2. false,
    3. no valid answer.
14. A milk price support higher than the free market equilibrium price results in
    1. more demand than supply,
    2. recurring surplus,
    3. periodic shortage,
    4. droughts affecting supply.
15. True/False: An inverse relationship exists between the demand for substitute goods and changes in income.
    1. true,
    2. false,
    3. no valid answer.
16. An inverse relationship between price and quantity is stated in the law of
    1. demand;
    2. supply;
    3. diminishing returns;
    4. mutual attraction.
17. A shortage is present when which of the following occurs?
    1. price above equilibrium,

2. supply exceeds demand,
3. price below equilibrium,
4. a government price support is present.

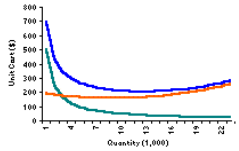
18. Which of the above figures shows the presence market equilibrium?
    1. Figure A



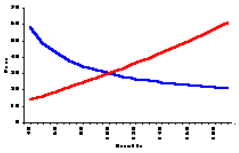
    2. Figure B



    3. Figure C



    4. Figure D



19. The demand for …… goods varies inversely with income.
20. The name given to the observable occurrence which leads buyers to buy more of the items which have just been reduced in price, while cutting on their purchases of the items which remained at old prices, is …… effect.

Answer

1. C
2. B
3. A
4. A
5. D
6. B
7. A
8. D
9. A
10. A
11. A
12. C

13. A
14. B
15. B
16. A
17. C
18. D
19. INFERIOR
20. SUBSTITUTION

Assignment

1. Define demand. State the law of demand. Draw a demand curve and give reasons for the validity of your graph.
2. Define supply. State the law of supply. Draw a supply curve and give reasons for the validity of your graph.
3. Draw demand and supply in a graph, and prove that their intersection is a stable equilibrium point. In the process define surplus and shortage.
4. Distinguish between changes in quantity demanded and changes in demand. List and explain nonprice determinants of demand.

Chapter 4 MIXED CAPITALISM

4.1 MIXED CAPITALISM

The purpose of this topic is to show why capitalism must be termed as mixed rather than pure because of the presence in all countries of a large government. The role of the government is tied to the legality of social framework, the redistribution of income, the need to reallocate resources, and the stabilization of the economy.

4.2 LEGAL FRAMEWORK

A government must exist to assure that no individual or firm takes advantage of others. Thus, property must be protected, contracts must be enforced, and in general all markets must perform the way they should. To this end, the government provides a court and judicial system.

> The responsibility of the Food and Drug Administration (i.e. to verify that the ingredients of a product are shown on the label) is an example of how the government provides a legal environment. Another example is the verification of weights and measures.

4.3 ANTITRUST LEGISLATION

The government must attempt to maintain as much competition as possible in all markets. This is done by preventing monopolies or controlling them where necessary.

> In 1945, the Aluminum Company of America (ALCOA) was judged to be a monopoly. Indeed, since 1893, it was virtually the only company producing aluminum in the United States, and therefore, it could charge any price it wanted.

4.4 INCOME REDISTRIBUTION

The government must be present to alleviate the hardship of those who have insufficient income because the free market economy tends to reward only those with marketable skills.

> Unemployment benefits, food stamps and welfare programs, are all examples of how the government helps those whose income is insufficient in the United States.

4.5 SPILLOVER COSTS AND BENEFITS

Costs of production not borne by the firm but passed on to society (e.g. pollution), are known as spillover or external costs, or negative externalities. The government must reallocate resources away from areas where spillover costs exist and toward areas where spillover benefits are large (e.g. health and education).

> A firm which pollutes water is imposing costs on society in the health problems it may cause for some, and in the clean-up that will be necessary; these are spillover costs. A spillover benefit exists when a firm operates its own clinic: healthier employees represent a benefit for the entire society since they are less likely to need health care from the government.

4.6 PUBLIC GOODS

Public or collective goods are goods which are consumed collectively by all, which consumption cannot be divided among individuals, and from which no one can be excluded. An example of a public good is that of a lighthouse benefiting all ships. Public goods have large spillover benefits but must be paid by all.

> Public goods are enjoyed by all. Streets, parks, bridges are available for everyone to use. Less noticeable may be national defense or the local police force, both of which provide safety. To some extent, income redistribution, such as a welfare program, is also a public good since it relieves individuals from the responsibility of having to care for afflicted persons.

4.7 STABILIZATION

The government must take responsibility for avoiding periods of economic inefficiency which occur when excessive unemployment or inflation exist.

> In the United States, the Employment Act of 1946 was specifically intended to make the government responsible for taking the necessary actions to prevent periods of excessive unemployment.

4.8 CAPITALISM

Capitalism is characterized by a market economy relying on the use of capital and a set of ideological premises. The use of capital for mass production and division of labor is found to be essential. The market economy relies on the price system to express the consumer sovereignty which dictates to businesses what they should produce as if guided by an invisible hand.

> The United States and all the other Western countries are relying on a system where capital, i.e. means of production, are freely owned by private individuals. This is one of the major differences with State ownership in socialist countries.

4.9 PREMISES OF CAPITALISM

Capitalism is based on the principles of private property, freedom of choice, reliance on self-interest, competition, and a free market economy, with limited interference from the government.

4.10 COMPETITION

Among the tenets of capitalism, competition in a market economy means that there exists a large number of buyers and sellers in each market so that none have the power to significantly affect the market price. This also requires that entry and exit to/from any market is free.

> Small retail operations, such as restaurants or food stores, are in competition with each other. A major advantage of many firms offering similar products is that prices are freely set by demand and supply, rather than by one powerful seller.

4.11 MARKET ECONOMY

Pure capitalism requires freely operating competitive markets. These markets allow the excess production of firms to be exchanged. In addition, the markets permit the pricing mechanism to reflect the value of items being traded.

> In a market economy the price of any item, such as a VCR, is set by demand and supply. If the VCR is in great demand, the price will be high and a large number will be produced. In a planned economy, the quantity to be produced is determined by bureaucrats.

4.12 DIVISION OF LABOR

Greater productive efficiency is achieved through specialization of resources in their most productive use. Division of labor allows more intensive use of skills and greater output with the use of capital. This mass production results in excess production beyond the immediate needs of the producers: such excess production must be traded. Such trading requires a market economy and the use of money.

> Assembly lines, such as the one used to produce the Ford model T show how production can be increased and the cost can be reduced if it can be subdivided into simple tasks which require a minimum of skills for that task alone.

4.13 CIRCULAR FLOWS

The circular flows model represents how goods and services are purchased by households from firms in the product markets, and how resources of households are acquired by firms in the resource markets. Money flows (payments and income) move in opposite direction of the product and resource flows.

> A circular flow of money can be observed even at the level of a household where the income earned is used to go to the store and buy a variety of goods. These purchases create, in turn, income for those who produce the goods.

4.14 CONSUMER SOVEREIGNTY

Consumers express their preferences with their dollar votes for the products they like best. Producers find it profitable to produce precisely these products.

> What consumers want most, firms will be eager to provide. This can be seen in all lines of products: from toys to computers. It can especially be observed in the fashion industry where production of trendy clothing is favored.

4.15 PRICE SYSTEM

A freely operating market economy is necessary for the price system to adequately reflect the preferences of consumers and the value they see in various products. The price system allows maximum consumption for the least price, but it does not prevent market failures.

4.16 INVISIBLE HAND

Adam Smith described pure capitalism as a society where individuals make isolated decisions based on selfish motives (profits) to buy, sell and produce various products,

but these decisions turn out to be precisely what society wanted as if the isolated decisions were guided by some invisible hand.

> Ten years ago, VCR's used to be very expensive: over one thousand dollars. Since then, the features and the variety of VCR's have considerably increased. At the same time, the prices have decreased by one half. This situation appears to have been created to benefit the consumers, but it was really created by the producers competing to gain market share and profits. Now DVD players are in demand.

4.17 PRIVATE SECTOR

The private sector consists of the households and the business communities. Households are analyzed in terms of how they obtain their income and how they spend it. The businesses are compared in their various forms of business organization.

> All firms and households are part of this sector of the economy.

4.18 FUNCTIONAL DISTRIBUTION OF INCOME

The functional distribution of income shows the breakdown of the various sources of income by type of resource ownership. Empirical data shows that the combination of salaries and proprietor's income (that is human resource ownership) combine for over 80% of total income. Profits, rent and interest account for the remaining 20%.

> The functional distribution of income is very similar for most countries of the world: over 3/4 of income is derived from work.

4.19 PERSONAL DISTRIBUTION OF INCOME

The personal distribution of income shows what proportion of households receives what share of total income. Empirical data shows that the upper 20% of the population receives over 40% of income, while the lower 20% receives less than 5%. This verifies that large income inequalities exist.

> The inequality shown by the personal distribution of income is in part attributable to the large proportion of non-employment income earned by the wealthiest segment of the population.

4.20 INCOME DISPOSITION

Income is used for consumption, savings and taxes. Consumption is further subdivided among durable goods (lasting more than one year), nondurable goods (lasting less that one year) and services.

> Income disposition shows what people do with their income. For instance, the savings rate, or proportion of income devoted to saving shows the attitude of the population toward thrift and consumption. Compared to other nations, the United States is more of a consumption oriented society.

4.21 BUSINESS ORGANIZATION

There are three forms of business organization: sole proprietorship, partnership and corporation. Sole ownership or proprietorship is by far the most common, but corporations control most assets and sales.

> The legal form of a firm is usually indicative of the actual form of business organization, but not always. For example, a few small businesses are incorporated, but owned by only one shareholder actually.

4.22 SOLE PROPRIETORSHIP

The sole proprietorship is by far the most common form of business in the United States. The lack of funds and unlimited liability of the owner are major limitations.

> Most small farms and retail operations are in the form of sole ownership or proprietorship.

4.23 PARTNERSHIP

Partnership forms of business are most common where combinations of skills are essential (such as for lawyers and doctors).

> Many partnerships are found in highly specialized professions such as lawyers, architects, C.P.A.'s, securities dealers and doctors.

4.24 CORPORATIONS

Corporation have the major advantage of protecting the liability for owners (i.e. shareholders), which is limited to the funds contributed. This facilitates capital formation. Corporations control over 75% of assets and sales in the United States (although they represent less than 20% of the business population).

> All the major firms in the United States are corporations. Some, such as AT&T, have millions of owners, i.e. shareholders, directly, or indirectly through pension and retirement plans. Such firms have easier access to new funds from investors than small and not so well-known firms do.

4.25 PUBLIC SECTOR

The public sector is the government which can be studied in terms of its the expenditures and revenues, and the principles which guide the analysis of its taxes.

> The public sector is the government. But, in closer analysis, it may be observed that it includes a large number and a great variety of administrations from the Federal Government responsible for national defense to the town hall of a small rural village.

4.26 GOVERNMENT EXPENDITURES

The expenditures of the Federal government are primarily devoted to income maintenance (such as Social Security and Welfare), also known as transfer payments. The second category is national defense. The largest portion of expenditures of State and municipal governments goes to education and health.

> All payments made by any form of government is what government expenditure means. Some of these payments are for the purchases of items such as pens or tanks. Some are for the performance of services such as those of a policeman. A large proportion of government expenditure consists of payments to retired persons or persons in need of assistance.

4.27 GOVERNMENT REVENUES

The revenues of the Federal government come primarily from personal income taxes. That of State and municipal governments from real estate and sales taxes.

> The Internal Revenue Service (or I.R.S.) is the branch of the American government responsible for the collection of federal taxes. State and local governments have treasurer's offices for that purpose.

4.28 TAX AVOIDANCE

Income taxes, the largest proportion of tax revenues, are voluntary and thus must be perceived to be by and large as equitable. Otherwise, tax avoidance and tax evasion may limit tax revenues. Tax avoidance is seeking legal means of reducing taxes. Tax evasion is illegal.

> The Internal Revenue Code provides for a variety of methods to delay or avoid taxes in a perfectly legal manner. One example is the use of individual retirement accounts to build a nest egg for retirement, which is not taxable until withdrawn.

4.29 BENEFIT RECEIVED

One principle of taxation proposes that taxes paid should correspond to the benefit derived by the taxpayer from the public goods provided by the government. An example of such principle is evident in the Federal excise gasoline tax used to finance highways, and the real property taxes used to finance schools. The principle is inapplicable for income redistribution taxes.

> Many expenditures at the town or municipal level are correlated to collections which reflect the benefit received principle. For instance, one community may have higher real estate taxes because its citizens want well maintained roads, or a well equipped school system.

4.30 ABILITY TO PAY

The "ability to pay" principle of taxation rests on the fact that the sacrifice from the last dollar is small for high income individuals but large for low income individuals. Thus, the principle leads to a recommendation of progressivity of tax rates for all taxes.

> The principle of ability to pay is obvious in income taxes: the higher the income the higher the rate one has to pay. The principle used to be even more noticeable in the U.S. prior to the Tax Reform Act of 1986: the rate of taxes assessed on higher income was much higher (50%) than what it has been since then (33%).

4.31 PROGRESSIVE TAX

Progressivity means that a higher tax rate is assessed on higher income. A proportional tax rate would be the same for all income levels, and a regressive tax would have higher tax rate for lower income. Empirical data shows that income taxes are very close to being proportional in the United States.

> The Personal Income Tax in the United States used to be much more progressive than what it is today. The rate on the highest income bracket was at one time 70%, while the rate on the lowest income bracket was 14%. However, various deductions and exemptions available to high income individuals were reducing their effective tax rate.

4.32 TAX INCIDENCE

The tax incidence shows who really bears the burden of a tax. Because taxes can be shifted from one person to another, tax schemes which appear to be progressive may be regressive in reality. This is the case for property taxes, which are technically paid by the landlord, but charged to the tenant as part of the rent.

> It is sometimes argued that the Corporate Income Tax incidence falls on consumers and not on corporations because the corporations, although liable for the tax, are able to increase the price of their products.

Review Quiz

1. Which of the following is NOT an income redistribution government role?
    1. unemployment benefits,
    2. antitrust laws,
    3. social security,
    4. welfare.
2. Which of the following activity is part of the social framework role of government?
    1. labelling of products,
    2. national defense,
    3. social security,
    4. medicaid.
3. The incidence of the property tax is commonly shifted to
    1. renters,
    2. landlords,
    3. government agencies,
    4. tax assessors.
4. The Federal Government derives most of its revenues from
    1. corporate income tax,
    2. sales tax,
    3. property tax,
    4. personal income tax.
5. What proportion of income comes from human resources?
    1. 20%,
    2. 33%,
    3. 50%,
    4. 80%.
6. An example of tax based on the benefit received principle is
    1. tobacco excise tax,
    2. inheritance tax,
    3. sales tax on non-food items,
    4. gasoline excise tax to finance highway construction.
7. The major advantage of the corporate form of business is
    1. limited liability,
    2. combining skills,
    3. decision effectiveness,
    4. avoidance of double taxation.
8. Taking advantage of allowable deductions to reduce taxes is known as
    1. tax avoidance,
    2. underground economy,
    3. tax evasion,
    4. fraud.
9. Which of the following are necessary for mass production?

1. substitute goods,
2. public goods,
3. complementary goods,
4. capital goods.

10. True or False: In proportion to their income, the wealthy families spend less on consumption than the low income
    1. families.
    2. true,
    3. false,
    4. no valid answer.
11. With bartering without using money, the level of economic activity will
    1. become more stable,
    2. decrease,
    3. increase,
    4. increase or decrease.
12. The process by which firms make decisions about production, seeking their selfish interests but ending up providing consumers with the goods most wanted, is known as the
    1. invisible hand,
    2. production possibilities,
    3. spillover effect,
    4. redistribution of output.
13. Competition, essential for capitalism, requires
    1. few firms of equal and large size,
    2. free entry and exit of many small firms,
    3. firms producing products which are not quite the same,
    4. government setting official prices.
14. The presence of clear benefits and hidden costs, makes
    1. public goods more profitable,
    2. politicians more sensitive,
    3. profits more accurate,
    4. government role easier to evaluate.
15. What principle of taxation is based on the observation that the sacrifice from foregone consumption is greater for poorer families?
    1. ability to pay,
    2. tax incidence,
    3. benefit received,
    4. revenue sharing.
16. The personal distribution of income is affected above all by
    1. season,
    2. government intervention,
    3. region,
    4. resource ownership.
17. Which of the following is not characteristic of mixed capitalism?

1. division of labor,
2. self interest,
3. no government intervention in the economy,
4. use of money.

18. A higher tax rate on a higher income causes a tax to be
    1. proportional,
    2. progressive,
    3. regressive,
    4. incident.
19. Which is not characteristic of pure capitalism?
    1. private property,
    2. freedom,
    3. self interest,
    4. important government role.
20. The largest portion of the Federal Government expenditures is
    1. education,
    2. police protection,
    3. social security and health,
    4. NASA.

Answer

1. B
2. A
3. A
4. D
5. D
6. D
7. A
8. A
9. D
10. A
11. B
12. A
13. B
14. B
15. A
16. D
17. C
18. B
19. D
20. C

Assignment

1. Study the functional and personal distribution of income. Indicate how these can affect the overall level of economic activity.
2. Compare the various forms of business organization. Prove that the corporate form is dominant in any capitalistic society.
3. Outline the 2 principles of taxation. Give examples of each. Show how the principles are applied in income and sales taxes.
4. Explain what is the incidence of a tax. Show how the incidence of various taxes is indeed shifted.
5. Outline the major revenue sources and expenses of the Federal Government. Do the same for state and local governments.

Chapter 5 NATIONAL INCOME ACCOUNTING

5.1 INTRODUCTION

The purpose of this topic is to study how the gross national product is measuring the economic activity of a nation. The concept is defined and explained. The components are analyzed in the expenditure and the income approach, and the two are reconciled. Adjustments for inflation are presented. The concept is compared to other measures of economic welfare.

5.2 NATIONAL INCOME ACCOUNTING

National income accounting is used to determine the level of economic activity of a country. Two methods are used and the results reconciled: the expenditure approach sums what has been purchased during the year and the income approach sums what has been earned during the year.

> Just as firms need to know how well they are doing, so does a country. National income accounting provides the statistics to determine if the economy is encountering difficulties.

5.3 GROSS NATIONAL PRODUCT

The gross national product is the sum total of all final goods and services produced by the people of one country in one year. The GNP is a flow concept. It can be calculated with either the expenditure approach or the income approach. The GNP excludes intermediate goods, second hand sales as well as financial transactions. The GNP is a money amount and must be adjusted for changes in the value of money.

> The goal of gross national product is to measure the physical activity of a nation by adding all the different types of productions: production of cars, production of computers, etc... But adding cars and computers does not make much sense. Therefore, the prices of these goods are summed.

5.4 GROSS DOMESTIC PRODUCT

The gross domestic product is the sum of all the final goods and services produced by the residents of a country in one year. Summing the production of residents (rather than nationals as in GNP) gives often a more accurate picture of the level of activity in a country.

The difference between GDP and GNP is net unilateral transfers and factor income of foreigners.

> Countries which have many foreign firms operating within their territory, have a gross domestic product larger than the gross national product. On the contrary, countries, such as the United States or Japan, which have firms operating in foreign countries, have a gross domestic product smaller than the gross national product (the net factor income from foreigners is negative).

5.5 INTERMEDIATE GOODS

Intermediate goods are goods which are made part of some final good. For instance, tires are intermediate goods when they are part of a car. Tires are final goods when they are sold separately as replacement parts. Incorporating intermediate goods to form a final good adds value to that good.

> Almost all metals and crude oil are part of intermediate goods: they are not counted separately, but as part of the final good in which they are incorporated. Tires purchased by customers to replace used tires are final consumption; but, not the tires installed on new cars: these are intermediate goods.

5.6 VALUE ADDED

GNP can be calculated by adding up all the value added from the intermediate goods (the result is exactly the same). Countries with tax systems based on value added taxes prefer this method.

> The work performed to assemble a car from its many components (such as windshield, tires, motor, and so on), is the value added in a car assembly plant. Such a value added can also be calculated by taking the difference between the selling price and the costs of all material and goods used in the product sold.

5.7 EXPENDITURE APPROACH

GDP can be calculated as the sum of all expenditures: personal consumption expenditure (C), gross private domestic investment (Ig), government purchases (G), and net exports (Xn).

GDP = C + Ig + G + Xn.

> The expenditure approach sums all that is purchased: in a sense, it is equivalent to the income approach because purchases are only possible if income is present.

5.8 PERSONAL CONSUMPTION EXPENDITURE

Personal consumption expenditure is what households buy (except houses). It is made of durables (cars, appliances), nondurables (clothing, food) and services (haircuts, doctor visits, airline tickets). A convention is made on nondurables to be all items which last less than a year, including clothing. Nondurables expenditure is the most stable component of personal consumption expenditure.

> People buy all kinds of goods and services. Services are, for example, transportation, communication, banking and insurance. Durable goods include furniture, appliances, equipment, cars, etc.. Nondurable goods are all items which would normally be consumed within a year: food, fuel, stationary, and by convention also clothing.

5.9 GROSS PRIVATE DOMESTIC INVESTMENT

Gross private domestic investment is made of 1) new construction, 2) new capital (machines, trucks and equipment), and 3) changes in inventory. It excludes investment made by government and investment made outside the country. New construction includes all forms of new building, be it for rental purpose or for private residential purpose. Changes in inventory captures the goods produced in one year and sold in future years.

> When a company builds a plant and installs machinery and equipment: that is an investment, i.e. an increase in capital. By convention, a private house is considered an investment. The reason is that a private house may later be rented and it is not possible to know for which purpose, rental or private use, a house is built in the first place.

5.10 CAPITAL CONSUMPTION ALLOWANCE

Capital consumption allowance is the part of new capital produced during one year, which is needed to replace the capital used up during that year. It is also known as depreciation. Capital consumption allowance (CCA) is equal to the difference between gross investment (Ig) and net investment (In):

CCA = Ig - In.

> All machines and equipment used to produce other goods, are subject to some wear and tear. Part of capital goods production must be devoted to replace this wear and tear. Otherwise, the productive capacity of a nation would be depleted. This replacement of the capital used is capital consumption allowance.

5.11 NET INVESTMENT

Net private domestic investment is equal to gross private domestic investment less capital consumption allowance. It is the most sensitive component of GDP. When it is

negative it implies that the capital stock is being depleted and production has to be decreasing. Economic growth is implied in a positive net private domestic investment.

> The productive capacity of a nation will increase only if net investment is positive. This can easily be verified at the level of a single plant: the number of new machines installed in any given year must be greater than the machines that have been used up during that year.

5.12 GOVERNMENT PURCHASES

Government purchases combine all goods and services bought by all forms of government: form paper clips to bridges and hospitals. This does not include government payment for work or any transfer payment.

> As a single entity, the government is the largest purchaser in a nation. It buys all kinds of products: from hospitals and bridges, to paper and pens (so we can fill out all these forms). It also spends large sums on services such as those provided by firemen and policemen.

5.13 NET EXPORTS

Net exports is the difference between total exports and total imports. It is equal to the trade or merchandise balance of payments. When imports exceed exports (and the balance of payments is in deficit), the amount shown as net exports is negative.

> American exports, such as computers, airplanes and various crops, are all items produced which are sold to foreigners. Imports, on the contrary, are items produced by foreigners on which Americans spend some of their income.

5.14 INCOME APPROACH

The income approach sums all income derived from productive activities.

If we compare a nation to a business, the income approach would be an allocation of the funds generated from the sales of one year (net of costs of intermediate goods), to the various expenses and retained profit.

5.15 NET NATIONAL PRODUCT

Net national product (NNP) is equal to gross national product minus capital consumption allowance:

NNP = GNP-CCA.

Net domestic product is likewise

NDP = GDP - CCA

(As above, the difference between NNP and NDP is net factor income and unilateral transfers to foreigners.)

The production which has been devoted to maintaining our stock of means of production, that is the capital consumption allowance, must be deducted to see what new consumption and income occurred during the year.

5.16 NATIONAL INCOME

National income (NI) is equal to net national product minus indirect business taxes:

NI = NNP - (ind business taxes)

National income is also equal to the sum of salaries, rent, interest, profit and proprietors' income.

National income is the sum of all forms of gross income, similar to the gross salary appearing in a paycheck of an employee, that is before various taxes and other deductions are taken out.

5.17 INDIRECT BUSINESS TAXES

Indirect business taxes are all the various sales and excise taxes.

> Sales taxes are the largest part of indirect business taxes. These sales taxes are paid as an addition to the price when a purchase is made. They are passed on to the government by the business that collects them. Thus, these moneys are not part of what is distributed by the firm in the form of income.

5.18 PERSONAL INCOME

Personal income (PI) equals national income net of transfer payments. Transfer payments added to national income are: social security and pension payments, welfare and unemployment payments. Transfer payments deducted from national income are: social security contributions, undistributed corporate profits and corporate income taxes.

5.19 TRANSFER PAYMENTS

Transfer payments are additions and subtractions to national income to obtain personal income. Additions include social security retirement payments, unemployment benefits and welfare payments. Subtractions include social security contributions, corporate income taxes and undistributed corporate profits.

> Transfer payments are payments which are not connected to any productive activity. The typical example of a transfer payment is social security: contributions to social security are collected from all those who work and are passed on to those who are retired.

5.20 DISPOSABLE INCOME

Disposable income (DI) equals personal income less personal income taxes. Disposable income is distributed between personal consumption expenditure and saving.

> Disposable income can readily be seen in the paycheck an employee receives from the employer. From the gross salary various amounts have been taken out: taxes and various transfer payments. On the national level, it is just about the same.

5.21 REAL GDP

Real GDP is GDP adjusted for inflation (or change in value of money). The unadjusted GDP is known as nominal or current GDP. The adjustment consists in dividing current GDP by a price index (also known as a deflator).

> GNP adjusted for inflation is said to be real in the same way as what a paycheck can buy in various goods and services, is the real purchasing power of that salary.

5.22 PRICE INDEX

A price index is constructed by taking the weighted average of the prices of a basket of goods in a given year divided by the weighted average of the prices of the same basket in a base year. A well known price index is the consumer price index or CPI.

> The consumer price index is simply an average of prices reported by various consumers from different markets during a telephone survey conducted periodically. Such an average of prices is adequately portraying the presence of any inflation.

Review Quiz

1. The technical wording used to designate depreciation (means of production used up during one year) is
    1. construction consumption allowance,
    2. capital capacity allocation,
    3. construction capacity appropriation,
    4. capital consumption allowance.
2. True or False: Calculating GNP by summing value added at all stage of production is equivalent to summing the market value of all final goods and services.
    1. true,
    2. false,
    3. no valid answer.
3. A newly produced car which was not sold during a given year will be included in GNP as part of
    1. personal consumption expenditures,
    2. government expenditures,
    3. gross private domestic investment,
    4. not included at all in GNP.
4. The difference between GNP and NNP is
    1. capital consumption allowance,
    2. transfer payments,
    3. indirect business taxes,
    4. personal income tax.
5. True or False: GNP is generally considered as an adequate measure of a nation's well-being because it reflects the quality of the products used.
    1. true,
    2. false,
    3. no valid answer.
6. The capital which is included in GNP as investment, is that which is
    1. replacing capital used during the year,
    2. only financed by new issues of stocks and bonds,
    3. a net addition to the stock of capital,
    4. the sum of all purchases of machinery and equipment.
7. Which of the following is NOT excluded from national income accounting?
    1. illegal transactions,
    2. transactions of second hand items,
    3. financial transactions,
    4. exports.
8. True or False: Economic policies are based on guesswork whether or not national income accounts are available.
    1. true,

2. false,
3. no valid answer.

9. Which of the following items is NOT part of government expenditures in GNP?
   1. welfare payment checks,
   2. salaries of policemen,
   3. the construction of highway,
   4. the purchase of paper for printing ballots for elections.
10. To obtain real or constant dollar GNP, GNP should be
    1. deducted from a price index,
    2. multiplied by a price index,
    3. divided by a price index,
    4. added to a price index.
11. Intermediate goods are excluded from GNP in order to avoid
    1. recession,
    2. inflation,
    3. double counting,
    4. including underground economy.
12. Which of the following is included in the difference between PI (Personal Income) and NI (National Income)?
    1. corporate income tax,
    2. property tax,
    3. personal income tax,
    4. sales tax.
13. True or False: Financial transactions, such as buying stocks and bonds are not included in GNP.
    1. true,
    2. false,
    3. no valid answer.
14. Net exports is equal to
    1. exports minus depreciation,
    2. exports minus changes in inventory,
    3. exports minus imports,
    4. imports minus exports.
15. National income accounting is measuring the
    1. level of satisfaction or well-being of a nation,
    2. level of economic activity,
    3. stock of resources (used and unused) generating income,
    4. income that one nation gives to some other nation.
16. The name given to the sum total of all goods and services produced during a year, minus the capital consumed during that year, is … .... (3 words).
17. What are the words (or abbreviations) used to designate the total market value of all final goods and services produced in one country over the period of one year?

18. The name given to a ratio of average prices in a given year over the average prices in a base year, is price .....
19. The specific word which is used for goods which are not purchased for further manufacturing or processing, but which are bought by the end consumer, is ..... (goods).
20. The name given to the income received by households, net of the personal income taxes, is .... (2 words).

Answer

1. D
2. A
3. C
4. A
5. B
6. D
7. D
8. B
9. A
10. C
11. C
12. A
13. A
14. C
15. B
16. NET NATIONAL PRODUCT
17. GNP/ GROSS NATIONAL PRODUCT
18. INDEX/ PRICE INDEX/ CONSUMER PRICE INDEX
19. FINAL
20. DISPOSABLE INCOME

Assignments

1. Outline the major revenue sources and expenses of the Federal Government. Do the same for state and local governments.
2. Use the circular flow model to explain the two basic approaches and the various components of National Income Accounting.
3. Breakdown GNP into its components in both the expenditure and income approaches, and reconcile the two.
4. Present the effects of a positive and negative net investment on economic activity. Comment on the roles of changes in inventory and capital consumption allowance.
5. Why does GNP need to be adjusted, and how is it adjusted? How is a price index constructed and used?

Chapter 6 BUSINESS CYCLE

6.1 INTRODUCTION

The purpose of this topic is to study the nature, causes and characteristics of the two major economic problems: periods of severe unemployment and periods of inflation.

6.2 BUSINESS CYCLE

Business cycles are recurring periods of recession and prosperity which are widespread throughout a nation and which feed upon themselves. They must be distinguished from seasonal variations (lack of sales of coats in the summer) and long run secular trends (especially related to population, e.g. baby boom). The phases of a business cycle are peak, contraction, recession, trough, recovery, and expansion.

> The existence of a business cycle can be best observed in the number of people who are laid off and have a difficult time to find a job. During peak periods of economic activity, this is less likely to happen. But, in period of recession, this is very common.

6.3 RECESSION

A recession is a widespread decrease in economic activity. Such decrease usually causes many employees to be unemployed. A very serious recession is referred to as a depression. Causes for recession have been tied to excess inventories, decrease in consumption (attributable to fears about the future, for instance), lack of innovations and new capital formation, and random shocks.

> The worst recession on record is that of the 1930's. About one person out of 4 (or close to 25%) was unemployed. The hardship was more than just a lack of income, and, for some, consisted in broken lives and families.

6.4 POSTPONABLE DURABLES

Business cycles are significantly affected by changes in sales of items which last several years because their purchase can be postponed through additional maintenance and repair. Such postponable items are essentially the durable goods and new capital.

> The purchase of a car is most often delayed when insecurity about employment exists. If difficulties are encountered, monthly payments may be missed and the car could be repossessed.

6.5 UNEMPLOYMENT

Unemployment is the labor force seeking employment and unable to find it. The cost of unemployment can be measured by the deficiency in the potential output of a nation: both foregone production, income and consumption of needed goods. A less tangible, but more significant cost is present in the loss of social and cultural value of those unable to play an active role in society.

> Some of those who are unemployed have been laid off, while others are new entrants to the labor force, such as graduating young people and women, seeking their first jobs.

6.6 FRICTIONAL UNEMPLOYMENT

Frictional unemployment represents the employees switching jobs for more productive and higher paying positions. Such labor mobility is desirable since it assures that the labor force is more efficiently utilized and income is enhanced.

> Especially in the United States, it is common for any employee to seek employment with a different firm, if conditions or salary at the current employer are not satisfactory. In some respect, this employment switching is desirable since employees are able to make better use of their skills.

6.7 STRUCTURAL UNEMPLOYMENT

Structural unemployment is due to changes is various sectors of the economy. These continuous changing conditions in different industries are due to changes in tastes of consumers and are part of any changing society. While structural unemployment can be reduced by retraining, for most part it is desirable since it is a reflection of a society seeking improvements in its products.

> In the mid 1980's the decrease in the price of oil caused many oil related undertakings (in particular in Texas) not to be profitable any more. Some oil drilling and explorations were cut and the employees let go. Such employees would be considered as part of the structural unemployment of the country.

6.8 CYCLICAL UNEMPLOYMENT

Cyclical unemployment is attributable solely to a deficiency in the level of economic activity. This form of unemployment is the most undesirable because it is avoidable.

> The unemployment during the great depression of the 1930's, was cyclical unemployment in its entirety. Everyone held on to the jobs they still had: friction unemployment was unlikely. Structural unemployment was also far less noticeable than the unemployment caused by people afraid to spend their money and by firms forced to cut back on their output.

6.9 RATE OF UNEMPLOYMENT

The rate of unemployment in the United States is obtained from a telephone survey of households in which the proportion of the labor force actively seeking and unable to find employment is determined. (In other countries, statistics are based on those registered with the unemployment office; thus international comparison may be inaccurate). Unemployment rates may be distorted by underemployment (part time work), discouraged workers and underground economy.

> Some countries measure the unemployment rate using the proportion of those who filed for unemployment benefits. The survey (of those seeking employment) method used in the United States appears to be better because some people may file for unemployment while working for an employer "off the books".

6.10 DISCOURAGED WORKERS

The presence of discouraged workers causes the official rate of unemployment to be understating the real extent of unemployment. This is especially a serious problem during recessions because a larger number of discouraged workers will be leaving the labor force.

> Because of the lack of skills or because of disabilities, some individuals are, unfortunately, very unlikely to be able to find full time employment no matter how hard they may seek work. Some may eventually give up looking for work. These are the individual classified as discouraged workers.

6.11 NATURAL RATE OF UNEMPLOYMENT

The natural rate of unemployment corresponds to the combination of frictional and structural unemployment which cannot be avoided even in a very high level of economic activity. This natural rate of unemployment has historically been around 4%, but it has risen slightly in recent years because of changes in labor force which now includes more women and young people (who take often more time to find jobs).

> Changes in tastes or production methods are major causes for structural changes in our economy. These changes go on all the time. Some structural unemployment is just unavoidable. Some frictional unemployment is desirable. If, to these two forms of unemployment is added the unemployment caused by first time job seekers, it is clear that there will always a number of individuals seeking employment.

6.12 COSTS OF UNEMPLOYMENT

There are both economic and noneconomic costs to unemployment. The main economic cost is lost income and output which is measured in terms of the GNP gap. Okun's law is used to determine the GNP gap by using the following formula: for every 1% that the actual unemployment rate exceeds the natural rate of unemployment, there will be a 2.5% GNP gap. Another economic cost of unemployment is that its harm is not distributed equally: blue-collar workers and minorities experience higher rates of unemployment than the rest of society during recessions.

6.13 COSTS OF UNEMPLOYMENT

Noneconomic costs tend to be high during cyclical unemployment. Unemployment can lead to family disintegration, loss of job skills, loss of self-confidence, social unrest, mental illness, increase in crime, and a decline in morale. History is full of examples where severe unemployment has brought about violent social and political changes.

6.14 INFLATION

Inflation is a widespread pattern of price increases. The rate of inflation is equal to the rate of change in a price index such as the consumer price index (CPI). Historically, inflation has been considered serious when it has approached or exceeded 10% per year.

> Going to the store and finding higher prices is inflation. Some countries are accustomed to very high rates of inflation: in excess to 100%, which means that price would double within one year.

6.15 DEFLATION

Deflation is a widespread pattern of price decreases. Historically, deflation is less common that inflation, but it is also more feared because the loss of revenues of a large number of firms may result in widespread bankruptcies and decrease in

economic activity (as it happened, for instance, during the great depression of the 1930's).

> Periods of deflation have been rather rare in most countries of the world. During the great depression of the 1930's, prices did go down. The consequences were quite devastating: many companies went out of business for lack of revenues.

6.16 DEMAND-PULL INFLATION

One of the possible explanations of inflation is that it is caused by excessive demand on the part of consumers while firms are unable to expand output beyond their productive capacity. This is referred to as demand pull inflation.

> During the late 1960's, the United States experienced a period of high economic activity brought about by overall economic growth and the Vietnam war. Producers could not increase their production, while costumers were eager to buy more with their high income. The result was a period of demand pulled inflation.

6.17 COST-PUSH INFLATION

A common cause of increases in prices are increases in costs. For instance, demands by unions for higher wages have been labeled as wage push inflation. At other times, increases in commodity prices were attributable for inflation, for instance, in the case of the oil crisis of the 1970's.

> The oil crisis of 1979–1980 caused oil prices to jump drastically in the early 1980's. The increased energy costs were passed on to consumers in the form of higher prices. In great part, that inflationary period was of cost push inflation nature.

6.18 MEASURING INFLATION

Inflation is commonly measured with the consumer price index. The consumer price index reports the general level of prices of a basket of 300 consumer goods and services. It is stated as a ratio of prices in a given year divided by the prices of the same basket of goods and services in a base year. The base year index is set at 100. The rate of inflation is calculated for any given year with the formula: (current year index - previous year index)/previous year index

> RULE OF 70
> The rule of 70 is used to determine how long it will take for prices to double at the current rate of inflation. The number of year for prices to double is determined by dividing 70 by the annual rate of inflation. (The rule of 70 can also be used to determine how long it will take for savings or GNP to double).

6.19 INFLATION REDISTRIBUTION EFFECT

The effect of inflation (if it is not anticipated) is to redistribute wealth and income from savers and those on fixed income to debtors and those on variable income. This happens because the purchasing power of a fixed money amount decreases, and because borrowers repay lenders their debt in cheaper dollars.

> A borrower who pays an interest rate lower than the inflation rate, is in fact paying back less in purchasing power to the lender than what he had borrowed. The borrower gains and the lender loses as long as the interest rate is not adjusted for the rate of inflation.

6.20 REAL INCOME

Real income is nominal income adjusted for the rate of inflation. For instance, real interest is equal to nominal interest less rate of inflation.

What income can really buy in terms of the quantity of goods and services, also known as purchasing power, is real income. If prices increase while income is unchanged, less and less can be purchased.

6.21 ANTICIPATED INFLATION

If inflation is fully anticipated, the redistribution effect of inflation is nonexistent. This can be accomplished with cost of living adjustments for income to offset the loss of purchasing power, and by indexing nominal interest rates (i.e. increasing the nominal interest by the rate of inflation). The drawback of using various schemes of anticipated inflation is that it perpetuates inflation.

In the 1980's, variable interest rates for mortgages became increasingly popular. Both borrowers, i.e. home buyers, and lenders, i.e. banks, can benefit from the arrangement. With interest tied (or indexed) to inflation, home buyers see their payments reduced if inflation slows down. But, banks are also protected from the loss of purchasing power of the repayments should inflation speed up.

6.22 INFLATION OUTPUT EFFECT

Depending on its severity, inflation may have a mild stimulative effect (called forced saving) or a serious recessionary effect (especially in hyperinflation). Most commonly, continuous price changes make consumers not sure of what the real value of products is, and the uncertainty reduces the volume of purchases.

Historically, periods of inflation have been associated with peaks of economic activity. The high price of products and the uncertainty about what the real value of product should be, has been identified as a cause of the slow down in purchases in the inflationary years of 1970–80 in the United States. But, some countries manage to adjust to high rates of inflation.

6.23 INFLATION OUTPUT EFFECT

In the case of a mild inflation (4-6% per year), the additional revenues over costs for most firms allows them to undertake new investment which is expansionary. (This is called forced saving).

6.24 HYPERINFLATION

Hyperinflation is the most severe and destructive form of inflation. When money decreases in value so fast that it ceases to be a medium of exchange, the economy returns to barter and the economic activity may come to a halt. Such danger may be present even in a moderate inflation because inflation expectations may produce spirals of cost push and demand pull inflation leading to hyperinflation. However, some countries manage with very high inflation.

> The classical example of hyperinflation is that of Germany during the 1920's. It is reported that money was losing so much of its value that the weight of money paper needed to buy products exceeded the weight of products that could be bought. It is no wonder that people preferred to avoid using money in their transactions when they could.

Review Quiz

1. True or False: The rate of unemployment is understated by the increasing number of discouraged workers who drop out of the labor force during severe recessions.
    1. true,
    2. false,
    3. no valid answer.
2. Recurring periods of expansion and contraction of economic activity are known as
    1. economic waves,
    2. business cycles,
    3. product life cycles,
    4. trends.
3. OPEC oil crisis has been blamed for which form of inflation in the middle and late 1970's?
    1. cost push,
    2. structural,
    3. demand pull,
    4. hyperinflation.
4. Hyperinflation is associated with
    1. wage-price spiral,
    2. stock market crash,
    3. great depression,
    4. severe price drop.
5. Costs of living adjustment are given to employees for one of the following reasons:
    1. anticipated inflation,
    2. unemployment benefits,
    3. retirement benefits,
    4. unanticipated inflation.
6. True or False: Purchases of automobiles are said not to be postponable because not everybody who drives to work, has to be there on time.
    1. true,
    2. false,
    3. no valid answer.
7. If wages and interest rates are not adjusted for inflation, who gains from inflation?
    1. debtors,
    2. fixed income earners,
    3. lenders,
    4. savers.
8. During periods of recession, discouraged workers cause the unemployment rate to be
    1. understated,

2. overstated,
3. very accurate,
4. comparable to that of other countries.

9. Which of the following form(s) of unemployment is (are) tolerable?
   1. cyclical and structural,
   2. frictional only,
   3. cyclical only,
   4. structural only,
   5. structural and frictional,
   6. frictional and cyclical.
10. True or False: Indexing of social security payments has increased hardship for most retirees.
    1. true,
    2. false,
    3. no valid answer.
11. Which of the following is used to measure inflation?
    1. rate of unemployment,
    2. index of production,
    3. index of prices,
    4. Dow Jones index.
12. Which of the following would cause an overstatement of the rate of unemployment?
    1. part-time workers,
    2. retired workers,
    3. underground economy,
    4. discouraged workers.
13. Which of the following type of goods is affected by business cycles first?
    1. nondurables,
    2. necessities,
    3. durables,
    4. services.
14. The $ amount of income is
    1. nominal,
    2. purchasing power,
    3. real,
    4. adjusted.
15. The form of unemployment which is looked upon as undesirable because it is due to a potentially avoidable slowdown of economic activity, is known as ..... unemployment.
16. What is the word used to designate a general pattern of price increase throughout the economy? .....
17. Unemployment which is acceptable because it is attributable to people changing jobs to find higher pay, is known as ..... unemployment.

18. What is the word used for a general pattern of price decrease throughout the entire economy? .....
19. What is the exact word used in economics for the phase of the business cycle during which production decreases and unemployment increases?
20. Unemployment which must be tolerated because it is tied to declining sector of the economy, is known as ..... unemployment.

Answer

1. A
2. B
3. A
4. A
5. A
6. B
7. A
8. A
9. E
10. B
11. C
12. C
13. C
14. A
15. CYCLICAL
16. INFLATION
17. FRICTIONAL
18. DEFLATION
19. RECESSIONS/ DEPRESSIONS/ ECONOMIC SLOWDOWN
20. STRUCTURAL

Assignments

1. Outline what business cycles are, what causes them and what major problems may occur.
2. What is unemployment? How is it measured? Is a 0% unemployment rate possible? Why?
3. What are the 3 types of unemployment identified by economists? Which need serious attention? and which not as much? Explain.
4. Outline the economic as well as the noneconomic consequences of unemployment.
5. What is inflation? What are the 2 different causes which are usually discernable.
6. How does inflation redistribute income in our society?
7. Explain how the output of a nation can be affected by inflation, especially when inflation is very high.

Chapter 7 CLASSICAL-KEYNESIAN CONTROVERSY

The purpose of this topic is show two alternative views of the business cycle and the major problems of unemployment and inflation. The classical theory is first presented. The Keynesian view is offered as a critique of the classical theory.

7.1 CLASSICAL THEORY

The classical theory is essentially the laissez faire belief of pure capitalism. In this view, business cycles are natural processes of adjustment which do not require any action on the part of government.

> In Adam Smith's explanation of the invisible hand, the process which leads firms to produce what people want, no government is necessary: the economy works out its problems.

7.2 SAY'S LAW

Say's law proposes that supply creates its own demand. This means that the income derived from producing certain goods by some, allows them to purchase goods produced by others. Since all people have a need to purchase goods, they will seek to produce some goods to derive income and buy whatever they want. Thus the product markets will always necessarily be in equilibrium.

> Workers who earn income, earn that income in order to be able to buy a variety of products they want. Thus, by working and producing goods, these workers generate the income with which these goods can be purchased.

7.3 CLASSICAL MONEY MARKET

If some income happens not to be consumed immediately it will enter the money market as a saving. This saving will be put back into the economy as investment (i.e increase in capital) when it is borrowed. The interest paid by borrowers to savers assures that no saving will be idle. The money market equilibrates through an adjustment in the interest rate.

> The interest paid to those who save is an inducement to lend money. When the interest rate is high, people will want to save or lend more. On the other side of the market, the borrowers are discouraged to borrow too much by a high interest rate. Thus, the market does tend to reequilibrate under the influence of the interest rate.

7.4 PRICE AND WAGE FLEXIBILITY

The classical theory proposes that all markets reequilibrate because of adjustments in prices and wages which are flexible. For instance, if an excess in the labor force or products exist, the wage or price of these will adjust to absorb the excess.

> If prices and wages are flexible, markets reequilibrate. If, for instance, many people are unemployed, firms can hire workers at lower wages; but, hiring more workers precisely reduces unemployment.

7.5 INVOLUNTARY UNEMPLOYMENT

The classical theory proposes that no involuntary unemployment will exist because an adjustment in the wage rate will assure that the unemployed will be hired again. In addition, the need of workers to buy goods will encourage them to accept work at even the lower wage rates.

> If wages are flexible as the classical economists argue, then a decrease in wages does allow firms to hire more workers. Only those who are reluctant to work for lower wages would then remain unemployed.

7.6 CLASSICAL-KEYNESIAN CONTROVERSY

Keynesian employment theory is built on a critique of the classical theory. In this critique, Keynes argued that savers and investors have incompatible plans which may not assure that an equilibrium exists in the money market, that prices and wages tend to be rigid and equilibrium may not exist in the product and labor markets, and that periods of severe unemployment have occurred (which the classical theory denied).

> The Keynesian theory was developed in the wake of the great depression. It was very hard to argue then that only voluntary unemployment can exist as millions of workers were out of work.

7.7 KEYNESIAN SAVING-INVESTMENT PLANS

Keynes showed that savers and investors are separate groups which do not necessarily interact: financial intermediaries (banks) are in between. When a recession is present, investment may not be equal to saving because, although the interest rate is very low, 1) borrowers have poor sales prospect, 2) banks are afraid of lending because of potential bankruptcy, and 3) savers want to wait for higher returns. This causes a liquidity trap: some saving is idle.

> Banks do tend to be very prudent when making loans to businesses when economic conditions do not seem promising. But, their reluctance to make loans is itself contributing to the economic slow down.

7.8 KEYNESIAN PRICE-WAGE RIGIDITY

Keynes argued that prices and wages are not flexible as the classical theory asserts. Wages tend to be rigid on the down side because workers will not accept wages which

do not permit them to live adequately; this is reinforced by the actions of unions. If wages are too low, unemployment will exist. In the case of prices, firms producing large tag items prefer to cut production and lay off workers than cut price. Their monopoly power often permits them to act that way.

> Since the mid l980's, there have been several instances where employees have accepted wage give-backs: for instance, in the airline and steel industries. Aside from these exceptions, wage decreases are extremely rare. The general pattern is one of continuous increases, at least, to match cost of living increases.

7.9 AGGREGATE DEMAND

Aggregate demand shown graphically represents the sum total of what household are willing and able to buy at different level of the price level.

> Aggregate demand can be thought of as a combination of all the different products people may want to buy.

7.10 REAL BALANCE EFFECT

Aggregate demand curve is downsloping because of the real balance effect. If prices are higher than averages, then the purchasing power of monetary assets decreases and individuals tend to feel poorer and buy less. If prices are lower than historical price averages, the purchasing power of monetary assets increases, individuals tend to feel wealthier and buy more.

> There is an inverse mathematical relationship between interest rates and financial assets. Securities markets, such as the New York Stock Exchange, are very sensitive to inflation which is the major cause for increasing interest rates. This sensitivity was observed in October 19, 1987 stock market crash. It was also observed in securities markets reactions to lowering of interest rates by the US federal reserve bank in 2001.

7.11 AGGREGATE SUPPLY

Aggregate supply is made of three sections: the classical range is vertical, the Keynesian range is horizontal and the intermediate range is upsloping.

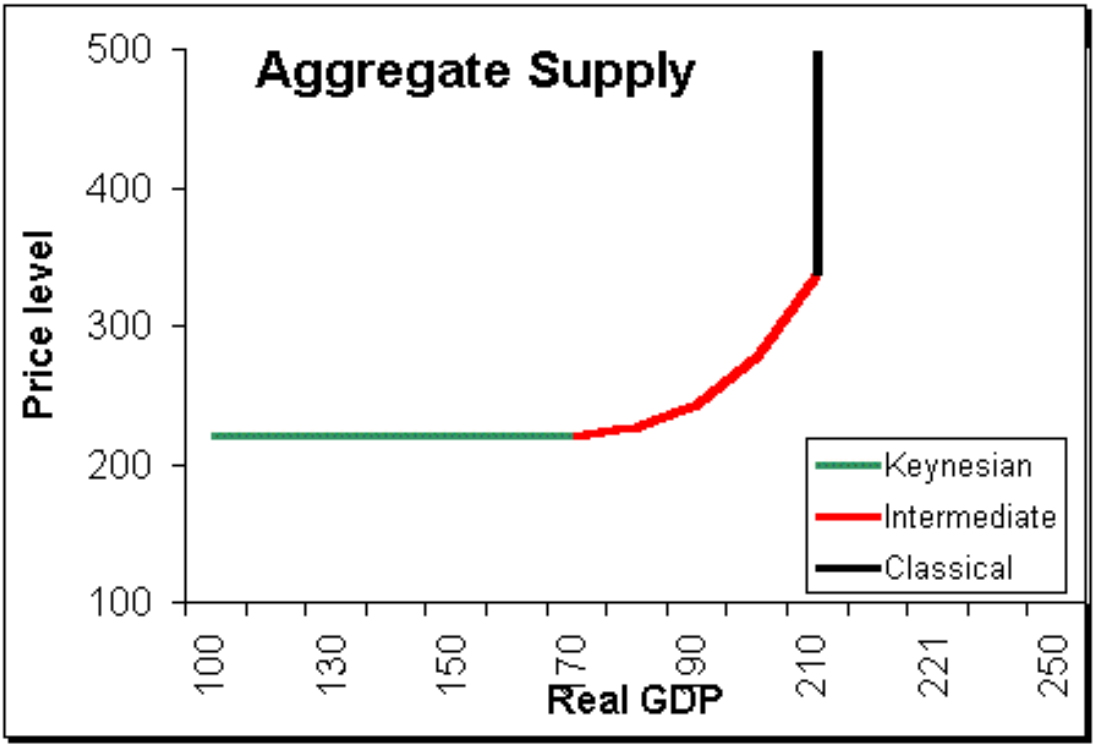


Figure 7.1 Aggregate Supply

> The aggregate supply can be thought of as the combination of all the goods that firms produce: it is GNP if the government is ignored.

7.12 CLASSICAL RANGE

The classical range of aggregate supply is vertical because of the proposition of the classical theory that prices will adjust so that output is always at full employment. In this range, expanding aggregate demand will cause inflation, while contracting aggregate demand will reduce inflation.

There are many sectors of the economy where all adjustments take place through price changes. One can think of all goods related to fashion: if a dress is in high demand, it will be priced very high; but if the dress is out of fashion, the price will be very low and, eventually, it will not be produced at all.

7.13 KEYNESIAN RANGE

The Keynesian range of aggregate supply corresponds to the proposition that when price are very low, firms will prefer to cut production rather than sell at a loss. In this range, any change in aggregate demand will produce a change in output. Thus, in the case of a recession the correct government policy is to expand aggregate demand.

Numerous sectors of the economy have very few changes in price but sizable changes in the volume of production and the number of employees. For example, car manufacturers offer rebates which do not amount to even 10% of the value of a car. Compared to changes in price of 50% or more in clothing for instance, the car rebates are very small. The reason is the large fixed costs. Closings of entire car manufacturing plants are not uncommon during recessions.

7.14 INTERMEDIATE RANGE

This intermediate range of aggregate supply represents the case of preliminary inflation (or sectoral inflation): when demand and output expand, some sectors of the economy may experience bottlenecks and require that prices increase because output cannot.

Some sectors of the economy tend to experience price and quantity changes at the same time. This would seem to be true of all the consumer goods sectors such as radios and televisions, or sport equipment.

7.15 AGGREGATE DEMAND POLICIES

When the intersection of aggregate demand and aggregate supply occurs in the Keynesian horizontal range a recession and excessive unemployment are present: the recommended policy would be to stimulate aggregate demand. When the intersection is in the classical vertical range, inflation is present: the recommended policy would be to contract aggregate demand.

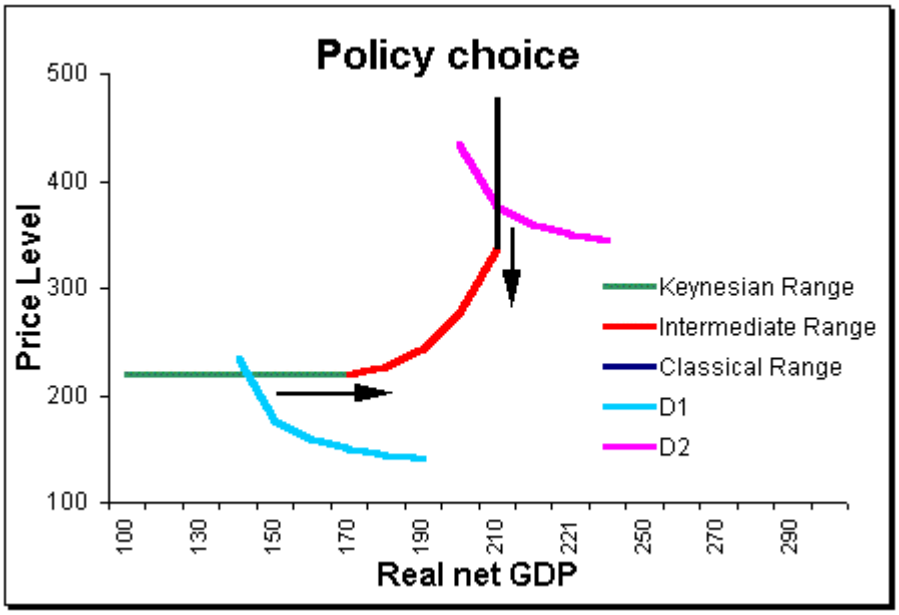


Figure 7.2 Policy choice

> Throughout the 1960's and the 1970's, the emphasis of the American administration has bee to control unemployment. Control of inflation was accomplished with the help of tax change

7.16 SUPPLY SIDE POLICIES

Supply side policies can be shown by attributing periods of stagflation (high prices and low level of output) to upward shifts of aggregate supply. The recommended policy would then not be an increased aggregate demand which adds to inflation, but instead a shift in aggregate supply downward by cutting costs of production.

> During the 1980's, the American administration has attempted to control the economy by paying more attention to the supply side of the economy. Specifically, costs of production are affected by regulations, restrictions and subsidies enacted by government bodies.

Review Quiz

1. What (2) words are used to designate the sum total of what the entire population of a country plans to purchase? ....
2. True or False: Keynesian theory explains periods of recession, which classical theory ignored.
    1. true,
    2. false,
    3. no valid answer.
3. True or False: In the Keynesian view, banks are capable to make more investment possible than there is saving.
    1. true,
    2. false,
    3. no valid answer.
4. True or False: The classical theory is founded on laissez faire.
    1. true,
    2. false,
    3. no valid answer.
5. What part of aggregate demand will be affected most if interest rates rise?
    1. food and related items,
    2. electricity and fuel,
    3. eating out and other services,
    4. cars and home appliances.
6. Which of the following is NOT part of the Keynesian argument that investment and saving do not equate?
    1. investors and savers are separate groups,
    2. different motivation of savers and investors,
    3. Say's law,
    4. money balances may be idle.
7. The focus of the classical range of aggregate supply is on changes in
    1. prices,
    2. inflation,
    3. wealth,
    4. quantities.
8. Unutilized resources and price rigidity on the down side will result in prices not changing much in which of the three ranges?
    1. classical,
    2. Keynesian,
    3. intermediate,
    4. intermediate and classical.
9. Which one of the following groups of economists pays more attention to quantity adjustments by firms than price adjustments (over the business cycle)?
    1. classical economists,

2. supply-side economists,
3. monetarists,
4. Keynesian economists.

10. Which of the following is NOT a proposition of the classical theory?
    1. prices and wages are flexible,
    2. supply creates its own demand,
    3. unemployment does not disappear,
    4. no unvoluntary unemployment exists.
11. Which of the following correctly summarizes Say's law?
    1. returns are diminishing after a certain output level,
    2. price and quantity are inversely related,
    3. supply creates its own demand,
    4. supply is upsloping.
12. Aggregate demand is affected by prices because when prices increase
    1. interest rates decrease,
    2. people usually buy more,
    3. the purchasing power of money balances decreases,
    4. money is worth more.
13. Which of the following is a foremost reason why prices and wages may not be flexible?
    1. prohibition of price fixing,
    2. government supervision over banks,
    3. monopolistic power (for instance, of unions),
    4. foreign trade restrictions (for instance, with tariffs).
14. The intermediate range of aggregate supply reflects
    1. wealth changes only,
    2. quantity changes only,
    3. price changes only,
    4. simultaneous price and quantity changes.
15. In the introductory graph where aggregate supply is made of 3 sections, which is the classical section?
    1. vertical,
    2. horizontal,
    3. intermediate,
    4. 45 degree angle.
16. The classical theory proposes that investment and saving are equal because
    1. prices and quantities change,
    2. unemployment disappears,
    3. interest rates adjust to make them equal,
    4. a ratchet effect takes place.

Answer

1. AGGREGATE DEMAND

2. A
3. A
4. A
5. D
6. C
7. A
8. B
9. D
10. C
11. C
12. C
13. C
14. D
15. A
16. C

Assignments

1. Outline the basic propositions of the classical theory. What are their views about individual markets?
2. Outline the essence of Keynesian critique of the classical theory.
3. Compare the views offered in the classical theory and the Keynesian model on what should be done about the business cycle.
4. Draw the 3 ranges of aggregate supply in the introductory graph. Explain each.
5. In the introductory graph, discuss what would happen if the aggregate demand is shifted in the Keynesian range, then if it is shifted in the classical range.
6. Show in the introductory graph how policies dealing with unemployment would work. Explain.
7. Show in the introductory graph how policies intended to deal with inflation are supposed to work. Explain.
8. In the introductory graph, show and explain what would be accomplished by shifting aggregate supply.

Chapter 8 KEYNESIAN EMPLOYMENT THEORY

The purpose of this topic is to analyze how aggregate expenditure and aggregate output can be represented, establish why an equilibrium may be present below full employment, and identify the process of the multiplier.

8.1 KEYNESIAN EMPLOYMENT THEORY

The purpose of Keynesian employment theory is to offer a solution to periods of excessive unemployment (i.e. recession). This solution is tied to the idea that employment depends on what firms need to produce, and their production level, in turn, depends on what individuals and firms plan to buy: this is what Keynes calls aggregate expenditure.

> During the great depression, people were afraid to spend. Businesses were reluctant to hire workers because they could not expect any pick up in sales. This was especially true for key sectors of the economy such as automobile purchases.

8.2 AGGREGATE EXPENDITURE

Aggregate expenditure (in the opinion of Keynes) is the key to economic activity. That is, what households, businesses and government plan to buy will be the determinant of what firms will eventually produce. In the first step of the analysis, a simplified model excludes government, assumes that no foreign sector is present, and the level of real income (not prices) is the major determinant of aggregate expenditure.

> When a family is planning to buy a car or put new appliances in the house, that would be a carefully thought out decision which considers the long term situation of the family. Such purchases are key items of aggregate expenditure.

8.3 AGGREGATE EXPENDITURE COMPONENTS

Aggregate expenditure AE is the sum of what households plan to buy (or consumption C), and what businesses plan to buy in terms of capital (or investment I): AE=C+I Later, the model will also include government purchases (G).

> Purchases from all sources should be included in aggregate expenditure: both foreign and domestic, public and private. For instance, what foreign consumers could buy from American computer manufacturers next year, would be an important element. However, government and foreign purchases are affected by other than purely domestic economic conditions.

8.4 CONSUMPTION

Consumption is what individuals (or households) want to (or plan to) buy. Their ability to consume is entirely dependent on their income. What is not consumed (in income) is set aside for future consumption: this is saving.

> What is of interest is not the physical consumption, such as the use of a car, but the time pattern of purchases. If members of a family need to drive to work, they will have to have a car whether it is brand new or very old. The purchase of the car can be postponed. What prompts a family to buy a car now is a great interest to economists: such purchase is consumption.

8.5 CONSUMPTION DETERMINANTS

The major determinant of consumption is the willingness or propensity to use the real income to buy goods and services. Thus consumption and income are directly related. Other determinants of consumption are the price level, wealth, stock of durables, level of indebtedness and expectations about the future.

> The perception of a family's income is what allows it to be confident that it will be able to make the necessary payments or to afford to take out the savings, to buy a car. If it does not feel confident about its level of current and future income, it may want to use the car one more year.

8.6 CONSUMPTION STABILITY

The pattern of consumption tends to be quite stable. Consumption shifts upward through time: the proportion of consumption out of income remains about the same.

> Statistics show that consumption, i.e. purchases of households, is the most stable component of aggregate expenditure.

8.7 AVERAGE PROPENSITY TO CONSUME

The willingness to use a proportion of income (Y) for consumption (C) is known as average propensity to consume (APC): APC=C/Y As income increases, the average propensity to consume decreases. This is indeed observable in the fact that wealthy individuals consume a smaller proportion of their income than to poorer people who may in fact be force to receive money from others.

> If the income of a family is $50,000 and that family spends $45,000 per year, the average propensity to consume is APC = 45,000/50,000 = .9 or 90%.

8.8 MARGINAL PROPENSITY TO CONSUME

The marginal propensity to consume (MPC) is the proportion of additional consumption (dC) which will be taking place out of an increase in income (dY): MPC=dC/dY MPC is the slope of the consumption line. It is constant throughout reflecting a stable pattern of consumption in our society.

> If the income of the family increases by $1,000 and the family decides to buy an additional television worth $600 with that new income, the marginal propensity to consume is MPC = 600/1000 = .6 or 60%.

8.9 SAVING

Saving is what is left from income after consumption is taken out. Saving is primarily determined by the level of real income. The higher the income, the more individuals are willing and able to save.

> Saving is what will permit consumption in the future. In today's society, a lot of saving is institutional. For instance, social security contributions and pension plan deductions are a form of saving.

8.10 AVERAGE PROPENSITY TO SAVE

The willingness of individuals to save (S) a proportion of their income is called average propensity to save (APS): APS=S/Y.

> If a family earns $50,000 and saves $5,000 each year, the average propensity to save is APS = 5,000/50,000 = .1 or 10%.

8.11 MARGINAL PROPENSITY TO SAVE

The marginal propensity to save (MPS) is the proportion of additional saving (dS) out of an additional income (dY): MPS=dS/dY The marginal propensity to save is the slope of the savings line. Since income can only be consumed or saved, the sum of the marginal propensities to consume and to save is one: MPC+MPS=1.

> If a family has an increase in income of $1,000 and decides to save $400 of that increase, the marginal propensity to save is MPS = 400/1,000 = 0.4 or 40%.

8.12 INVESTMENT DETERMINANTS

Investment is determined by the rate of return from various possible projects and the cost of borrowing (or interest rate). The pattern of rate of return gives the demand for investment (also known of the marginal efficiency of investment): it is inversely related with interest rates. The cost of borrowing or interest rate is determined in the money market and is essentially the product of monetary policy.

> Most companies determine their current investment plans with the help of long range planning and capital budgeting. Forecasts of future sales are the major determinants in these calculations.

8.13 INVESTMENT INSTABILITY

In addition to the rate of return, investment demand is determined by state of technology, maintenance and level of existing capital, as well as expectations about future sales. Some of these components are highly unstable, such as new inventions and innovations and changes in future sales expectations. Thus, it is not entirely useful to model investment with other elements than investment demand and the given interest rate.

> Historically, the investment component of aggregate expenditure and of gross national product has been the most erratic of all. In periods of economic slow down, it is often negative. It jumps back up as soon as expectations of future sales look brighter.

8.14 AGGREGATE OUTPUT

Real aggregate output (or net national product NNP) is the 45 degree line in the Keynesian model because total income is equal to total output since taxes and transfer payments are omitted, and total output can be shown vertically as the 45 degree line.

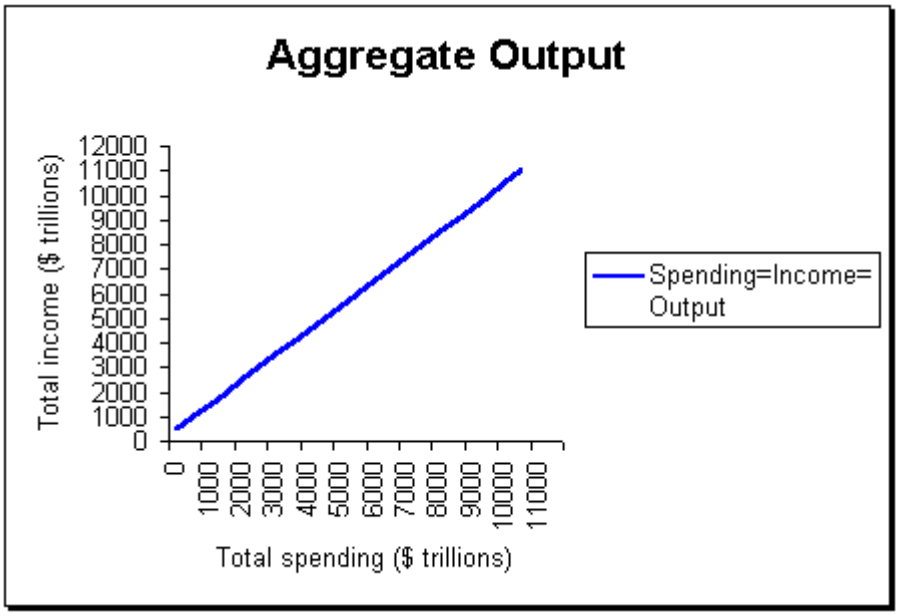


Figure 8.1 Aggregate Output

> Aggregate output is very closely correlated to national income; in fact, if there were no government, it would be almost identical.

8.15 KEYNESIAN EQUILIBRIUM

The equilibrium occurs where aggregate expenditure (AE) is equal to aggregate real output (NNP):

AE=NNP. Should firm produce more, they will be forced to cut back production because of excess inventories. Should they produce less, they will have to increase production because their inventories will be depleted. The equilibrium may very well occur below the full employment level of output.

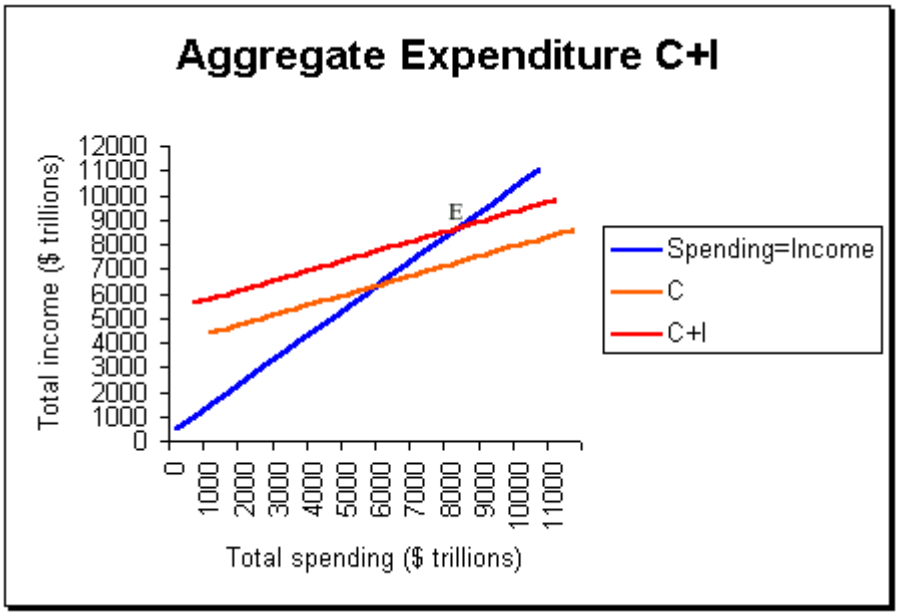


Figure 8.2 Aggregate Expenditure C+I

> Businesses adjust their production to sales by observing their inventories. If the inventories are insufficient, production is increased. If the inventories are excessive, production is cut back.

8.16 LEAKAGE

Saving can be viewed as a leakage of funds out of the circular flow model. (Taxes are also a form of leakage, so are imports).

> If the economy is looked upon as a circular flow of funds similar to an engine with the funds as fuel, a loss of funds to saving would slow down the economy just as a loss of fuel would slow down the engine.

8.17 INJECTION

Investment can be viewed as a form of injection of funds in the circular flow model. (Exports would also be an injection).

In the circular funds and engine comparison, a new input of funds speed up the economy just as an additional fuel injection into the motor.

8.18 LEAKAGE-INJECTION EQUILIBRIUM

The equilibrium in the leakage-injection graph is where saving is equal to investment:

I=S. Should firms produce more an unintended saving would be present in the form of inventory accumulation. Should firms produce less, dissaving would occur in the form of inventory depletion.

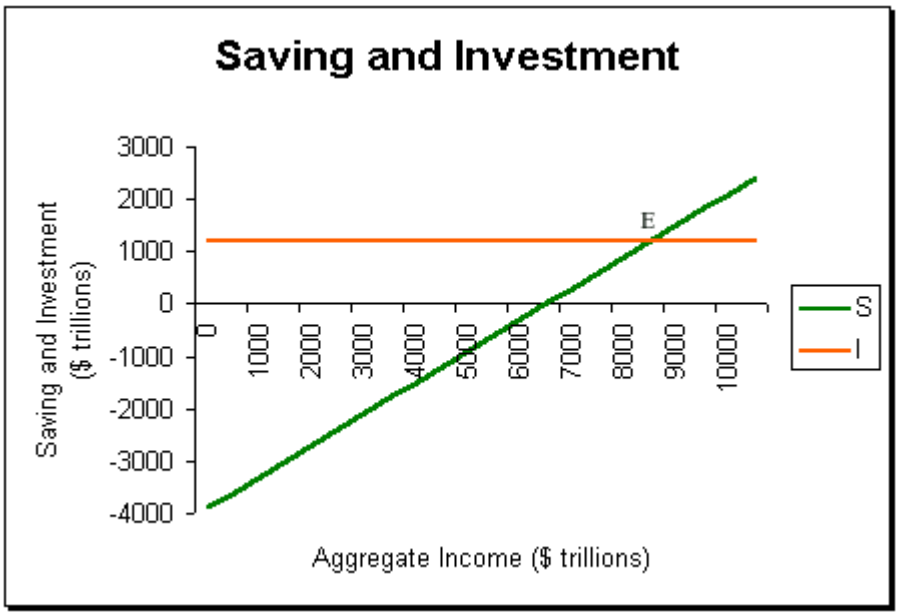


Figure 8.3 Saving and Investment

Many modern automobiles are equipped with vapor recirculation devices: what is lost to gasoline evaporation in the tank and carburetor is returned to the engine with that device so that the motor does not lose power. A similarity can be established with the circular fund flow model.

8.19 MULTIPLIER EFFECT

The multiplier effect comes from the fact that a positive change in planned expenditure by households or businesses will require a change in production putting new employees to work. This will result in new income that will cause a second round

of increased aggregate demand. Successive rounds will add up so that a small change in aggregate demand (dAE) causes a multiple (M) change in real output (dNNP)

M=dNNP/dAE.

> Just think about how many hands the money one has in one's wallet, has gone through! A payment for one additional purchase will not stop there, but will create income for several successive persons. That is the multiplier effect.

8.20 MULTIPLIER

The value of the multiplier is equal to the inverse of the marginal propensity to save or M=1/MPS=1/(1-MPC)

> If the marginal propensity to save is .4, the multiplier is M = 1/MPS = 1/0.4 = 2.5.

8.21 COMPLEX MULTIPLIER

Empirical estimates of the multiplier when all other forms of leakage are included, such as taxes, exports as well as saving, give a value of the complex multiplier of close to 2.

> All forms of funds usage other than spending reduce the multiplier. Taxes and import are two such diversions.

8.22 PARADOX OF THRIFT

If a society attempts to save more, its aggregate expenditure will decrease causing the equilibrium and real output to also decrease. As real output and income have shrunk, the society will not be able to save more, but only the same amount (or may be even less).

> The great depression is a vivid and regrettable example of the paradox of thrift. People tried to put more money aside because they were afraid. But, their very reluctance to spend caused income to decrease.

8.23 RECESSIONARY GAP

The extent to which the aggregate expenditure falls short of the full employment level of aggregate expenditure is called the recessionary gap. This is also the amount by which aggregate expenditure should be increased to achieve full employment.

> The administration calculates the potential GNP or full-employment income, which is presented in the Economic Report of the President.

8.24 INFLATIONARY GAP

The extent to which the actual aggregate expenditure exceeds the full employment level of aggregate expenditure is called the inflationary gap because such excess demand can only cause inflation as businesses already are producing at full capacity.

Review Quiz

1. In the aggregate expenditure schedule, the equilibrium is verified because if the production by businesses is such that aggregate output is smaller than aggregate expenditure, then
    1. inventories are depleted,
    2. inventories accumulate,
    3. demand pulled inflation occurs,
    4. production needs to be cut.
2. Investment demand will shift with
    1. taxes,
    2. costs,
    3. technology,
    4. changes in all answers are correct.
3. True or False: A major thrust of Keynesian economics is to show that a small change in NNP will cause a large change in AD.
    1. true,
    2. false,
    3. no valid answer.
4. The Keynesian multiplier is equal to
    1. MPS/(1-MPC),
    2. (1-MPC)-1,
    3. (1-MPC)/MPS,
    4. 1/(1-MPC).
5. True or False: Actual investment is equal to planned investment, plus unintended accumulation of inventory.
6. True or False: If consumer indebtedness is very high, it means that consumers will be forced to cut on spending.
    1. true,
    2. false,
    3. no valid answer.
7. The extent to which aggregate expenditure falls short of full-employment level of aggregate expenditure, is called
    1. recessionary gap,
    2. propensity to consume,
    3. inflationary gap,
    4. Keynesian multiplier effect.
8. In the Keynesian model, aggregate expenditure is
    1. current year,
    2. planned not actual,
    3. household only,
    4. prior year.
9. In Keynesian view, investment is unstable due to
    - uncontrollable money supply,
    - changing weather during year,
    - irregular pattern of innovations,

- all answers are correct.

10. In Keynesian aggregate demand graph, the consumption schedule is upsloping because people spend more when the following is higher:
    1. temperature,
    2. age,
    3. income,
    4. advertising.
11. In the paradox of thrift, an increase in saving causes
    1. an increase in NNP,
    2. an increase in C,
    3. a decrease in I,
    4. a decrease in NNP.
12. The fact that when a society tries to save more, it ends up saving the same amount (or even less), is known as
    1. fiscal policy,
    2. cost push inflation,
    3. real balance effect,
    4. paradox of thrift.
13. True or False: In the Keynesian model, real aggregate national output is equal to aggregate national income.
    1. false,
    2. true,
    3. no valid answer.
14. The relationship between MPS and MPC is
    1. MPC=MPS+1,
    2. MPC=MPS−1,
    3. MPS=1−MPC,
    4. MPS=1+MPC.
15. If an inflationary gap is present, the policy needed is to
    1. expand I,
    2. contract S,
    3. expand AD,
    4. contract AD.
16. Which of the following is NOT a non-income determinant of consumption?
    1. indebtedness,
    2. profit volatility.
    3. stock of durable goods,
    4. price level,
17. The willingness or propensity to save a given proportion of the last dollar earned, is
    1. APS,
    2. MPS,
    3. MPC,
    4. APC.

18. True or False: The Keynesian multiplier only works for increases in NNP, not for decreases.
    1. true,
    2. false,
    3. no valid answer.
19. True or False: In Keynesian view, interest rates are not free, but influenced by controls on money supply by monetary authorities.
    1. true,
    2. false,
    3. no valid answer.
20. The (Keynesian) word used to refer to saving and all other forms of diversion of income from expenditure, is .....

Answer

1. A
2. D
3. B
4. D
5. A
6. A
7. A
8. B
9. C
10. C
11. D
12. D
13. B
14. C
15. D
16. B
17. B
18. B
19. A
20. LEAKAGE/ LEAKAGES

Assignments

1. Draw the aggregate expenditure graph. Show where the equilibrium is. Explain why this is an equilibrium.
2. Draw the leakage–injection graph. Show where the equilibrium is. Explain why this is an equilibrium.
3. Draw the aggregate expenditure graph. Show the multiplier effect. Explain what is taking place in the multiplier effect.
4. Outline the process called multiplier effect. Show how it is calculated. Mention complex multipliers.
5. Explain the lesson of the paradox of thrift. Show how it ties in with the concept of multiplier.
6. Draw a consumption line in the aggregate expenditure graph. Explain what Keynes is showing with it.
7. Draw a consumption line in the aggregate expenditure graph. Is it stable? What causes it to shift?
8. How is saving presented in the Keynesian model? Where and how is it shown in the aggregate expenditure graph?
9. Explain how investment is presented in the Keynesian model. Mention its determinants. Why are the determinants external to the model.
10. Explain why investment in Keynesian view is independent of income.

Chapter 9 FISCAL POLICY

The purpose of this topic is to identify the needed policies when recession or inflation are present. Limitations of these policies are also studied. Nondiscretionary fiscal policies are presented.

9.1 FISCAL POLICY

Fiscal policy is the use of taxes and government spending to control the economic activity of a country. Such intent is explicitly stated in the Employment Act of 1946 and restated in the Humphrey-Hawkins Act of 1978.

> In 1981, the tax changes voted by congress were given the name of Economic Recovery Tax Act. This clearly shows that the government uses taxes as a method of controlling the economy. Along with spending, tax changes are what fiscal policy is.

9.2 GOVERNMENT SPENDING INCREASE

Government spending is an additional component of aggregate expenditure. The benefit of the multiplier effect can be derived as a one time increase in government spending to deal with a recession. Such was the case of the New Deal under Roosevelt. In the leakage-injection analysis, government spending is an injection and contributes to move the economy to a higher level of equilibrium.

> The Tennessee Valley Authority created in the 1930's was a combination of numerous major projects with thousands of new jobs. This new source of income, and thus aggregate expenditure, was a significant impetus for taking the economy out of the great depression.

9.3 TAX INCREASE

A tax increase reduces income, and thus, aggregate expenditure. If the tax increase is assumed to be a lump sum tax the aggregate expenditure will move downward in a parallel fashion. A tax increase may be warranted in the case of excessive demand causing inflation. In the leakage-injection analysis the tax increase is a leakage and is added to saving.

> In the late 1960's, a tax surcharge was enacted in the United States. Its purpose was to decrease the amount going to aggregate expenditure, i.e. create a negative multiplier effect, because the economy was experiencing an increasing inflation.

9.4 BALANCED BUDGET MULTIPLIER

If the increase in government spending is just equal to the increase in taxes, the budget is balanced. A balanced budget with simultaneous increases in spending and taxes is not neutral but expansionary. The reason for an increase in output is that the taxes reduce both consumption and saving, and the reduction from the taxes is smaller than the increase from the additional spending. The value of the balanced budget multiplier is one.

> During most of the earlier part of this century, the various American administrations believed in balancing the budget. Any increase in spending had to be matched by an increase in tax revenue. Over that period and until 1930, the economy grew at a very healthy pace. But in the 1930's, a balanced budget with reduced spending in the recession contracted (i.e. rather than expanded) the economy further.

9.5 KEYNESIAN FISCAL POLICY

Keynes recommends to use an expansionary fiscal policy in the case of a recession: reduce taxes and increase spending. In the case of inflation, the opposite is recommended.

> All western governments have adopted measures which have explicitly called for government policies using taxes and spending to control economic activity. For the United States, that evidence is present in the Employment Act of 1946.

9.6 FISCAL POLICY EFFECTIVENESS

Expansionary fiscal policy may be less effective than needed if a crowding-out effect takes place as government prefers to finance spending through borrowings rather than taxes or new money. Fighting inflation may also be ineffective with reduced spending and increased taxation if the budget surplus is used to repay debt.

The tax surcharge enacted in the late 1960's to combat inflation was not effective to stop inflation because the revenues were spent immediately in the Vietnam war effort.

9.7 CROWDING-OUT EFFECT

A crowding-out effect occurs when the government borrows: private investment is curtailed because funds are lent to the government rather than to more risky private borrowers. Thus, the effect is to substitute government spending for potentially desirable private investment.

> Interest rates in the United States have been higher than those of other major western nations all through 1970–1980 period. One reason for these high interest rates is the large public debt which needs to be refinanced regularly. The Treasury must offer a high enough return to sell its issues. These high interest rates have been blamed for the slow growth.

9.8 FISCAL POLICY LAGS

Fiscal policy effectiveness may also be reduced by the presence of various lags or delays in the impact of fiscal policy. Recognition lag relates to the identification of the real problem. Administrative lag arises from the time it takes to enact the needed statutes. Operational lag results from how much time it takes for the effect of tax changes to be realized and be felt.

Kennedy became president in 1960, in the middle of a mild slow down of the economy. He immediately proposed a tax cut according to Keynesian fiscal policy. However, the tax cut was not enacted until 1964 and the effects of the tax cut were not felt until several years later. By then, the economy was starting to experience inflation and the opposite policy was needed.

9.9 NONDISCRETIONARY FISCAL POLICY

Nondiscretionary fiscal policy refers to various ongoing programs of government spending and taxation. These are primarily for income maintenance purpose. They are usually rarely changed. They include social security, welfare and unemployment compensation.

The payment of unemployment benefits is a typical example of nondiscretionary fiscal policy. The payments necessarily increase when the number of unemployed increases, and that is during an economic slow down. The payments necessarily decrease when the unemployed return to work with an economic recovery.

9.10 AUTOMATIC STABILIZER

The nondiscretionary fiscal policy acts as an automatic stabilizer for the economy because when the economy is in recession the payments tend to increase, while the collection of contributions decreases with lower income. When the economy is prosperous the collections increase while the payments decrease. The surplus in prosperity and deficit in recession correlate with the needed policy and act to reduce (but not entirely correct) the existing economic condition.

The largest unemployment benefits are paid out when unemployment is the highest. Thus, the benefits offset the decreasing income of those out of work. But the benefits are only a small portion of the income foregone: it is only a partial corrective measure.

9.11 FULL-EMPLOYMENT BUDGET

Since the automatic stabilizer of nondiscretionary fiscal policy creates deficits and surpluses which are insufficient, the size of the needed additional policy action must be determined. This is done with the help of the full employment budget, which calculates what would have been the budget surplus or deficit had the economy been at full employment.

> During the period 1970–1980, the American budget was in deficit. During this period of time, because of high rates of unemployment in the middle 1970's and early 1980's, the full-employment budget was in surplus (because had the unemployed worked in those years, the taxes they would have paid would have been larger than the spending). Thus, even greater actual budget deficits could have been defended.

9.12 FISCAL DRAG

The automatic stabilizer of nondiscretionary fiscal policy creates surpluses in periods of prosperity. Such surpluses may however be acting as an impediment or drag on further economic growth (if such growth is desirable).

> As part of the very desirable programs under the New Deal, social security was enacted. At that time, however, the retirees qualifying for payments were few while the contributions were collected on all salaries. At that time, social security prevented a faster recovery of the economy from the great depression.

9.13 BUDGET DEFICIT

Budget deficits occur when government spending exceeds government revenues. The U.S. federal budget has been in deficit every year except one in the 1970's and 1980's. These deficits are essentially the product of Keynesian expansionary fiscal policies. However, in the 1980's the deficits grew even larger as a result of tax cuts inspired by supply side economics. Reducing budget deficits became then a political priority (e.g. Gramm-Rudman-Hollings Act).

9.14 BUDGET PHILOSOPHY

A budget philosophy of balancing the budget annually is not popular because it is procyclical (it makes business cycles worse). A functional budget philosophy (deficits whenever needed) is attributable to Keynesian employment theory (it has produced excessive debt). A cyclically balanced budget philosophy is a third often proposed alternative.

> The most devastating effects of a balanced budget philosophy were learned from Hoover's administration efforts to balance the budget in the early 1930's in the United States (and similar efforts in Great Britain). The cut in spending contributed significantly to the severity of the great depression.

9.15 PUBLIC DEBT

The continuous budget deficits of the 1970'a and 1980's produced a very large public debt (in excess of $2,000 billions in early 1990's). Economists argued whether the debt affects current (crowding-out-effect) and future (necessity to repay the debt) economic conditions. The most undoubtful impacts were the need to service the debt (pay interest) and the external threat from foreigners who own a large proportion of the debt and thus are able to affect the exchange rate of the dollar.

> The stock market crash of October 19, 1987, was in part attributable to the large public debt (in the opinion of some economists). The reason for this was the need to offer higher interest rates to refinance the debt which caused inflation to pick up. Higher interest rates decreased the value of financial assets and prompted investors to sell, which drove prices further down.

9.16 FISCAL POLICY AND POLITICS

Fiscal policy is enacted by elected officials. Although economic stability is an important goal of the government, it is not its sole objective. National security, provision of public goods and services, and redistribution of income are just some of the other important considerations. Strong evidence suggests that elected officials are often more concerned with getting reelected than just maintaining economic stability.

9.17 FISCAL POLICY AND POLITICS

Expansionary fiscal policies such as tax cuts or increased government spending are often implemented before elections to produce favorable economic indicators. Expansionary fiscal policies however tend to produce inflation, and soon after elections are over a contractionary fiscal policy has to be implemented. In addition, expansionary fiscal policies have a tendency to increase budget deficits.

9.18 NET EXPORT EFFECT

The net export effect reduces the effectiveness of fiscal policy. When an expansionary fiscal policy is implemented, net exports usually decline which decreases aggregate output. This decrease in aggregate output partially offsets the expansionary fiscal policy. When a contractionary fiscal policy is implemented, net exports will usually increase. This increase in aggregate output partially offsets the contractionary fiscal policy.

9.19 INDEX OF LEADING INDICATORS

The Index of Leading Indicators is used to eliminate or shorten recognition lags. These indicators provide economists with a clue to where the economy is heading. None of the indicators alone can predict the future course of the economy. The eleven leading indicators are averaged or indexed to provide a comprehensive forecast of the economy. An Index of Leading Indicators which declines or increases three consecutive months or more is indicative that the economy is moving in a particular direction.

Review Quiz

1. When taxes are increased, this causes NNP to
    1. increase,
    2. remain same,
    3. decrease,
    4. no effect at all.
2. A budget deficit occurs when
3. True or False: Large budget deficits in recent years have contributed to reduce our trade deficit.
    1. true,
    2. false,
    3. no valid answer.
4. The balanced budget multiplier is approximately
    1. less than 1,
    2. 1,
    3. 2,
    4. more than 2.
5. A contractionary fiscal policy consists of
    1. decrease in G,
    2. increase in G,
    3. decrease in T,
    4. increase in G and decrease in T,
    5. decrease in G and increase in T.
6. The recurring deficits and surpluses over the business cycle, which are created by the nondiscretionary fiscal policy (resulting from transfer payments), are said to constitute a(n)
    1. political cycle,
    2. automatic stabilizer,
    3. expansionary bias,
    4. fiscal drag.
7. Which of the following is NOT one of the lags creating timing problems for fiscal policy?
    1. Administrative,
    2. operational,
    3. recognition,
    4. competitive.
8. True or False: As a result of the crowding-out effect, expansionary fiscal policy is more potent.
    1. true,
    2. false,
    3. no categorical answer is possible.
9. Imposing a lump sum tax will immediately reduce
    1. S,
    2. C,
    3. AD,

4. all answers are correct.

10. Deliberate changes in taxes and spending by government to stimulate the economy or slow down inflation, are said to be part of
    1. social policy,
    2. foreign aid policy,
    3. fiscal policy,
    4. monetary policy.
11. Government programs (such as welfare, medicare and medicaid), which are not specifically intended to stabilize the economy are said to be fiscal policy which is
    1. authoritarian,
    2. nondiscretionary,
    3. socialistic,
    4. laissez faire.
12. Crowding-out effect refers to
    1. government borrowing reducing private investment,
    2. economics students leaving an economics class,
    3. employees being forced out of work,
    4. government spending making investment unnecessary.
13. A government surplus will be more effective to reduce inflation, if it is
    1. used to repay debt,
    2. left idle,
    3. spent,
    4. distributed to those who need it.
14. True or False: Keynes showed that if G and T are increased by the same amount, Y will increase also by exactly the same amount.
    1. true,
    2. false,
    3. no valid answer.
15. A serious concern with the large U.S. public debt is that it is held by
    1. corporations,
    2. rich individuals,
    3. banks,
    4. foreigners.
16. True or False: A lump sum tax is a leakage.
    1. true,
    2. false,
    3. no valid answer.
17. True or False: An expansionary fiscal policy is more potent if new money is created, rather than if borrowing is used.
    1. true,
    2. false,
    3. no valid answer.

18. The budget philosophy of balancing the budget annually has been criticized as
    1. countercyclical,
    2. procyclical,
    3. inflationary,
    4. creating large debt.
19. True or False: Because public debt can be refinanced or paid off by printing money, the federal government cannot go bankrupt.
    1. true,
    2. false,
    3. no valid answer.
20. A surplus created by nondiscretionary fiscal policy which acts to slow down growth when growth is needed, is referred to as
    1. crowding-out effect,
    2. operational lag,
    3. fiscal drag,
    4. complex multiplier.

Assignments

1. Show graphically and explain how an increase in government spending affects NNP equilibrium level. Use the aggregate expenditure graph as well as the leakage-injection graph.
2. Show graphically and explain how an increase in a (lump sum) tax affects NNP equilibrium level. Use both, aggregate expenditure and leakage-injection graphs.
3. What is the overall effect of a simultaneous increase in tax collection and government spending? Show this effect with the help of both aggregate expenditure and leakage-injection graphs.
4. In Keynesian view, what should be the fiscal policy over a business cycle? What elements increase and decrease its effectiveness?
5. What is the impact of various government programs which make up the bulk of government spending and are referred to as nondiscretionary? Why is a full-employment budget calculated and what is its purpose?
6. Discuss the problems and limitations of fical policy.

Chapter 10 MONEY

The purpose of this topic is to explain what is money. Demand and supply of money are analyzed. The importance of monetary policy is outlined. The structure and function of the Federal Reserve System is investigated.

10.1 MONEY

Money is any asset unconditionally accepted by all in all transactions. At different times in history, different items have been used as money, such as stones, salt, cattle or shells. Metals, gold in particular, have extensively been used. The modern paper form of money dates back to the Middle Ages when it was first used by Venetian merchants.

> In some parts of the world, salt is used as money even today. Salt is obviously not an official currency of any nation, but it is the people who accept it in any transaction, who make it money. These people accept salt in exchange for other commodities because they know that they will be able to offer that salt when they want to acquire something else. Salt is convenient because it is easily divisible and because it does not deteriorate.

10.2 FUNCTIONS OF MONEY

Money is the medium of exchange. It is used as a standard of value in which all prices are expressed. It is also a store of value for future consumption. Various characteristics of money are desirable, such as divisibility and durability.

> If no money were used, people would revert to barter, that is, exchange of items for other items. A farmer who would have an extra cow could exchange it for a horse, or two sheep, or a ton of apples, or a ton of eggs, for instance. Matching needs would have to exist: the one who had the eggs would have to want a cow. But the farmer may want a pound of eggs instead of a ton of eggs. Thus, without some asset chosen as money, transactions are difficult.

10.3 DEMAND FOR MONEY

Demand for money stems from the need to enter into transactions. In addition, there is an asset demand for money: for precautionary and for speculative reasons. The transactions demand for money is not interest rate sensitive. The asset demand for money is inversely related to the interest rate because money does not earn any return (and loses purchasing power with inflation): thus a smaller quantity would be held if the interest foregone is large. Demand for money is shown graphically as a downsloping curve.

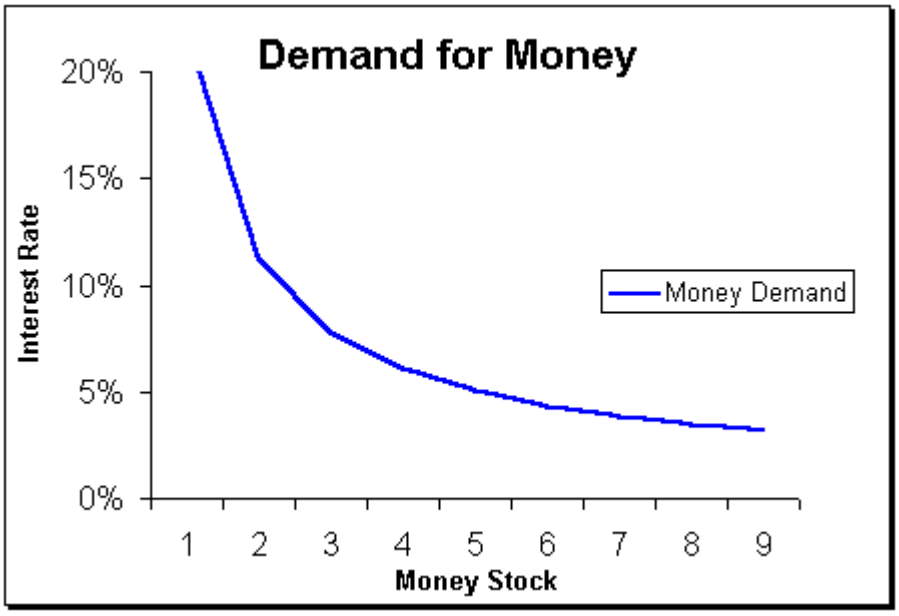


Figure 10.1 Demand for Money

While the purpose of holding money is to be able to buy something, it is also common to hold some amount of money as money just in case it is needed. Such need may arise out of an unexpected accident or unforeseen bargain opportunity, both of which require the ability to make immediate payments. This is also true when going out of the house: it is unwise not to have a few dollars for emergency.

10.4 MONEY SUPPLY

Different definitions of money supply exist because various forms of money may be used to make payments. The monetary authorities in the United States recognize 4 different types: M1, M2, M3 and L (for liquidity). Supply of money is shown graphically as a vertical line because it is determined by forces exogenous to the money market;

these forces are policy tools of monetary policy (which are studied in next two chapters).

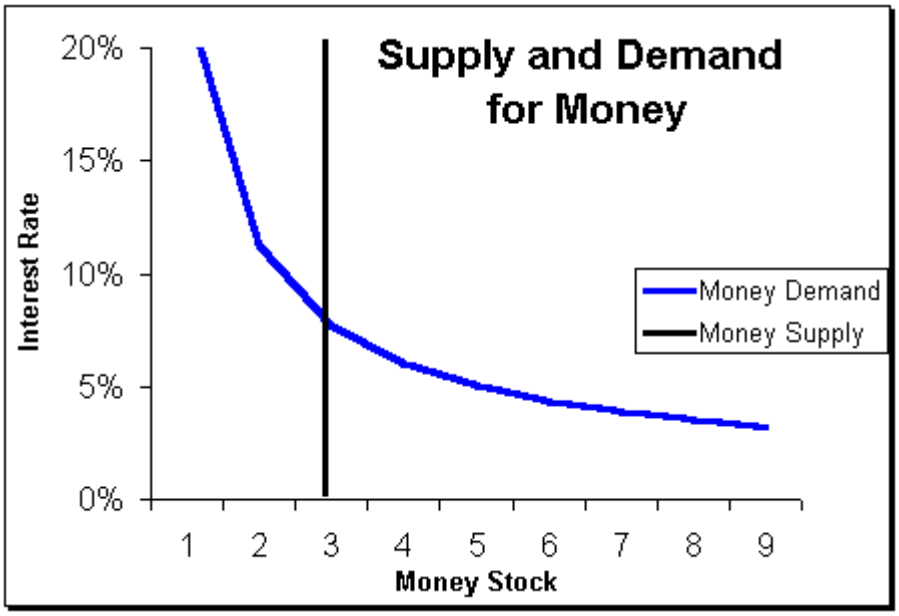


Figure 10.2 Supply and Demand for Money

> Any asset which allows one to make a payment, qualifies as a form of money, and is, thus, part of money supply. Careful analysis reveals that many different assets qualify as money, and differ only in the time it takes to complete the desired payment: this is their liquidity.

10.5 CURRENCY

Coins and bank notes are known as currency. Compared to other means of payment such as checks, currency represents only a very small portion of money supply. Currency is a liability of the Federal Reserve Banks because the token value it represents (see below).

> Currency is used to make small payments. For instance, for the purchase of groceries, gasoline or newspapers. It would be indeed inconvenient to write a check for small amounts. But all the large payments are completed with the help of checks. It would be unsafe and time consuming to purchase furniture, appliances or an automobile by paying with bank notes.

10.6 M1

M1 includes currency (paper notes and coins) and checkable deposits. M1 is the most restrictive definition of money supply.

> Only the most liquid forms of money are included in M1. Payments with coins and bank notes are naturally completed immediately. Payments by check are normally recognized on the day of receipt of the check, but in reality the recipient does not have access to the amount received until the check clears, which may take a day or more.

10.7 TOKEN MONEY

Currency and coins are said to be token money because their intrinsic value (the value of paper and metal content) is but a small fraction of the value they represent. They are also called convenience money because they are necessary for small purchases.

> The metal or paper content of coins and bank notes could not possibly come even close to the value it represents. If it did, the coin or bank note would disappear as a form of money. It is exactly what happened in the 1960's. Increases in the price of silver encouraged people to hoard quarters or even convert them into jewelry. The U.S. government had to mint new quarters which had but a trace of silver in them.

10.8 CHECKABLE DEPOSITS

Checkable or demand deposits represent money deposits in a commercial bank with the right of the owner to withdrawal upon demand. Various forms of equivalent arrangement are now possible at savings banks, credit unions and even securities dealers. They bear different names such as NOW, SDA and ATS.

> The bulk of the transactions in any modern economy is completed by check writing. In businesses in particular, the use of coins and bank notes is often referred to as petty cash and is reserved for miscellaneous minor expenses (such as buying a present for the birthday of an employee).

10.9 M2

M2 includes M1 and various forms of small time deposits. These deposits include savings accounts and certificates of deposits. Withdrawal or redemption of these deposits often leads to some penalty in lost interest.

> Holding money in a checking account earns very little interest or none at all. That is why it is preferable not to leave funds in excess of daily needs in checking accounts. The most convenient placement of such funds is in a savings account or a certificate of deposit. These can be redeemed on short notice, usually within a few hours: the time it takes to get to the bank.

10.10 M3

M3 includes M2 plus large time deposits (those larger than $100,000). An even broader definition of money supply is L, which includes government securities.

> Beyond the savings accounts and the certificates of deposits, a large variety of financial instruments are available. They usually offer a higher return but may take a little more time to redeem.

10.11 NEAR MONEY

All forms of money other than those in M1 are referred to as near money because, although readily available, they must be converted into checkable deposits before they can be used. Up to now credit cards have not been considered as money because the use of a credit card is assumed to be conditional on a loan by the issuer. Reserves of banks are not part of money because that would be double counting.

With high interest rates of the 1980's, several new forms of financial instruments have emerged. Mutual funds offered money market accounts with return much higher than normal bank certificates of deposit. Recent decreases in inflation and interest rates took away some of the appeal of money market account. Still, they are a good alternative to holding money in a checking account.

10.12 BACKING OF MONEY

Money is no longer convertible into gold (because the supply of gold is too unstable). The pronouncement of legal tender does not assure that a currency will be accepted. The acceptance of money rests in the mutual trust of people of acceptance by others and in the trust that the value of money will be preserved. Preserving the money value depends entirely on its relative scarcity and the control of money supply (which is the purpose of monetary policy).

The value of money does not come from any weight of precious metal, but from the amount of goods or services a dollar can buy: it is the purchasing power of money. For instance, in the late 18th century, the French assignat had to be discontinued because it never caught on as a form of money (i.e. people did not accept it as money), in spite of all the official pronouncements by the French government at the time.

Review Quiz available at end of next chapter.

Assignment

1. Give a definition of money. List its functions. Explain what backs money.
2. Carefully breakdown each measure of money stock into its components. Identify which quality of money is guiding the money stock breakdown.
3. Why is managing money supply so important? Which, supply or demand for money, can best be controlled?
4. Explain the various components of demand for money. Draw a graph showing demand and supply of money, and use it to show how monetary policy can control money.
5. Review the structure of the banking industry in the United States. Pinpoint the central role of the Fed. Show how its control is implemented. Comment on the nature and functions of the regional Federal Reserve Banks.