II.B.A. ECONOMICS

MONETARY ECONOMICS

UNIT I

INTRODUCTION

The Barter System

Areas are to be found in many rural areas of under-developed countries. Before the evolution of money, exchange was done on the basic of direct exchange of goods and services .This is known as barter. Barter involves the direct exchange of one good for some quantity of another good.For example, a horse may be exchanged for a cow, or 3 sheep or 4 goats. For a transaction to take place. There must be a double coincidence of wants. It is also a simple economy where people produce goods. Either for selfconsumption or for exchange with other goods which they want. Bartering was found in primitive societies. But it is still practiced at places where the use of money has not spread much. Such non-monetised areas are to be found in many rural areas of underdeveloped countries.

Difficulties of Barter

But the barter system is the most inconvenient method of exchange. It involves loss of much Time and effort on part of people in trying to exchange goods and services. As a method of exchange, the barter system has the following difficulties and disadvantages.

1. **Lack of Double coincidence of wants**. The functioning of the barter system requires a double coincidence of wants on the part of those who want to exchange goods or services. It is necessary for a person who wishesTo trade his good or service to find some other person who is not only willing to buy his good or services, but also possesses that good which the former wants. For example, suppose a person possesses a horse wants to exchange it for a cow.

2. **Lack of a Common Measure of Value**. Another difficulty under the barter system relates to the lack of a common unit in which the value of goods and services should be measured. Even if the two person who wants each other‘s goods meet bycoincidence, the problem arises as to the proportion in which the two goods should be exchanged. There being no common measure of value, the rate of exchange will arbitrarily fixed according to the intensity of demand for each other‘s goods. Consequently, one party is at a disadvantage in the terms of trade between the two goods.

3. **Indivisibility of Certain Goods**. The barter system is based on the exchange of goods with other goods it is difficult to fix exchange rates for certain goods which are indivisible. Such indivisible goods pose a real problem, under barter. A person may desire a horse and the other a sheep and both may willing to trade. The former may demand more than four sheep for a horse but the other is not prepared to give five sheep and thus there is no exchange.

4. **Difficulty in Storing Value**. Under the barter system it is difficult to store value. Anyone wanting to save real capital over a long period would be faced with the difficulty that during the intervening period the stored commodity may become obsolete or deteriorate in value. As people trade in cattle, grains, and other such perishable commodities, it is very expensive and often difficult to store and to prevent their deterioration and loss over the long period.

5. **Difficulty in Making Deferred Payments**. In a barter economy, it is difficult to make payments in future. As payments are made in goods and services, debt contracts are not possible due to disagreement on the part of the two parties on the following grounds. Both parties would run the risk that the commodity to be repaid would increase or decrease seriously in value over the duration of the contract.

6. **Lack of Specialisation**. Another difficulty of the barter system is that it is associated with a production system where each person is a jack-of-all trades. In other words, a high degree of specialization is difficult to achieve under tsystem. Specialization and interdependence in production is only possible in an expanded market system based on the money economy. Thus no economic progress is possible in a barter economy due to lack of specialization.

EVOLUTION AND KINDS OF MONEY

The word ―money‖ is derived from the latin word ―moneta‖ which was the surname of the Roman Goddess of juno in whose temple at Rome, money was coined. The origin of money is lost in antiquity. Even the primitive man had some sort of money. The type of money in every age depended on the nature of its livelihood. In a hunting society, the skins of wild animals were used as money. The pastoral society used livestock, whereas the agricultural society used grains and foodstuffs as money. The Greeks used coins money.

Stages in the Evolution of Money

The evolution of money has passed through the following five stages depending upon the progress human civilization at different times and place.

1.Commodity Money

Various types of commodities have been used as money from the beginning of human civilization. Stones, spears, bows and arrows, and axe‘s were used as money in the hunting society.

2.Metallic Money

With the spread of civilization and tread relation by land and sea, metallic money took the place of commodity money. Many nation started using silver, gold, copper, tin, etc. as money.

3.Paper Money

The development of paper money started with goldsmiths who kept strong safes to store their gold. As goldsmith was thought to be honest merchants, people started keepingtheir gold with them for safe custody. In return, the goldsmith gave the depositors a receipt promising to return the gold on demand. These receipts of the goldsmith were given to the sellers of commodities by the buyers. Thus the receipts of the goldsmiths were a substitute for money. Such paper money was backed by gold and was convertible on demand in to gold. This ultimately led to the development of bank notes.

4.Credit Money

Another stage in the evolution of money in the modern world is the use of the cheque as money. The cheque is like a bank note in that it performs the same function. It is a means of transferring money or obligation from one person to another. But a cheque is different from a bank note. A cheque is made for a specific sum, and it expires with a single transaction. But a cheque is not money. It is simply a written order to transfer money. However, large transaction are made through cheques these days and bank notes are used only or small transaction.

5.Near Money.

The final stage in evolution of money has been the use of bills of exchange, treasury bills, bonds, debentures, savings certificates, etc. They are known as ―near money‖. They are close substitutes for money and are liquid asserts. Thus in the final stage of its evolution money has become intangible. Its ownership is now transferable simply by book entry.

Function of Money

Money performs a number of primary, secondary, contingent and other functions which not only remove the difficulties of barter but also oils the wheels of of trade and industry in the present day world. We

discuss these functions one by one. . .

1.It should involve a common agreement among nations as to the objectives for which it existed.

2. It should bring stability of prices and guarantee stability of exchange.

3. Individual central banks should avoid such action which might endanger stability of prices through their effects on the policy of other central banks.

Given these three principles the countries on the gold standard were expected to observe the following rules or conditions for its smooth working.

1.There should be free and unrestricted export and import of gold between countries.

2. The country receiving (importing) gold should expand credit within the country and the gold-exporting country should contract credit.

3. There should be a high degree of price, wages, income and cash flexibility in countries on the gold standard so that these change with gold movements. For instance, when gold flows into the country, money supply should increase which should lead to rise in prices, wages and income, and costs would be adjusted accordingly. The opposite would be the case in the event of the outflow of gold to other countries. It would lead to increase in money supply, fall in prices, wages, income and costs. Thus the success of the gold standard depends upon flexibility in the economic set-up of the economy.

4. The successful working of the gold standard presupposed the existence of free trade among nations. The gold standard was essentially a laissez-fair standard.

5. The country on the gold standard should strictly adhere to the policy of maintaining exchange stability and other objectives should be subservient to it.

6.There should be no disturbing large capital movements based on speculative activities. In fact, the smooth working of the gold standard depended to a large extent upon the degree to which the movements of short-term funds could be influenced by changes in the bank rate.

7. Another condition was that the gold value of the domestic currency was to be kept stable. It should not be overvalued or undervalued.

8. Last but not the least, the success of the gold standard required normal times. That is why, it broke down during the First World War and the disturbed condition following the war.

9. The gold standard worked smoothly so long as the countries following these rules to the letter. As pointed out by Crowther, ―This gold standard is a jealous god. It will work provided it is given exclusive devotion.‖ This continued upto 1914 and after that when they started breaking these rules gradually, the gold standard broke down.

Working of the Gold Standard

The question arises: how did the gold standard work or what was the mechanism of the gold standard? The answer to this question is related to the functioning of the gold standard before 1914. All countries which were on the gold standard in the late 19th and early 29th century were inter-related and inter-dependent. A country having a favorable Balance of trade received gold from other country, because it had excess of exports over imports. On the contrary, a country having a unfavorable trade suffered from the loss of gold on account of the excess of imports over exports. This movement of gold affected both the countries, the country with the inflow of gold and that having on outflow of gold.The monetary reserves of the country with the gold inflow would increase. It would lead to an increase in the internal money supply of the country. The increased money reflected in increased expenditures on goods and services. This led to rise in prices, wages, income, and costs. Consequently, the increase in the cost-price structure of the economy‘s domestically produced goods became relatively dearer in comparison with foreign goods. This tended to reduce exports and increase imports. Thus a surplus in the balance of payment of a country caused by a favorable balance of trade would be automatically corrected in the country with the gold inflow. On the other hand, the reverse process would be repeated in the country with the gold outflow. The outflow of the gold would lead to decline in its monetary reserves. This would decrease the internal money supply of the country. As a result, prices declined along with wages, income, and costs. This made the domestically produced goods relatively cheaper then foreign goods. So exports increased and imports declined. Thus a deficit in the balance of payments of country by an unfavorable balance of trade was automatically corrected in the country with gold outflow.Was It Automatic? From the above analysis of the working of the gold standard, it seems that there was some visible hand which helped the attainment of ―automatic equilibrium‖ in the balance of payments of both gold inflow and outflow countries. But this is not a correct view about the actual working of the gold standard. In reality, there was a large degree of management in its working even during its hey days before the First World War. Powerful central banks, like the bank of England managed the internal policies of the government in each country for the gold standard to function the way the economic thought it should function. One of the principle objectives of the central bank policy was to maintain stable exchange rates for a country on the gold standard. The adjustmentin the domestic price level as a result of

gold movements was not automatic. Rather, it was modifi

1.PRIMARY FUNCTION

(i)Money as a Medium of exchange.

This is the primary function of money because it is out of this function that its other functions developed. By serving as a medium of exchange, money removes the need for double coincidence of wants and the inconveniences and difficulties associated with barter. The introduction of money as a medium of exchange decomposes the single transaction of barter into separate transaction of sale and purchase, thereby eliminating the double coincidence of wants. This function of money also separate the tran-saction in time and place because the sellers and buyers of a commodity are not required to perform the transactions at the same time and place. This is because the seller of a commodity buys some money and money in turn, buys the commodity over time and place.

(ii)Money as Unit of Value.

The second primary function of money is to act as a unit of value. Under barter one would have to resort to some standard of measurement, such as a length of string or a piece of wood. since one would have to use a standard to measure the length and height of any object, it is only sensible that one particular standard should be accepted as the standard. Money is the standard for measuring valuejust as the yard or metre is the standard for measuring length. The monetary unite measures and expresses the values of all goods and services. In fact, the monetary unit expresses the value of each good or services in terms of price. Money is the common denomination which determines the rate of exchange between goods and services which are priced in terms of the monetary unit. There can be no pricing process without a measure of value.

2. Secondary Function

Money performs three secondary functions: (i) as a standard of deferred payments,Money as a Standard of Deferred payments. The third function of money is that it acts as a standard of deferred or postponed payments. All debts are taken in money. It was easy under barter to take loans in goats or grains but difficult to make repayments in such perishable articles in the future. Money has simplified both the taking and repayment of loans because the unit of account is durable. Money links the present values with those of the future. It simplifies credit transaction. It makes possible contract

Credit creation by commercial banks

1. Do banks create credit? The creation of credit or deposits is one of the most important function of commercial banks. Like other corporation, banks aim at earning profits. For this purpose, they accept cash in demand deposits and advance loans on credit to customers. When a bank advances a loan, it

does not pay the amount in cash. But it opens a current account in his name and allows him to withdraw the required sum by cheques. In this way, the bank creates credit or deposits. Demand deposits arise in two ways: one, when customers deposit currency with commercial banks, and two, when banks advance loans, discount bills, provide overdraft facilities, and make investments through bonds and securities. The first type of demand deposits are called ―primary deposits‖. Banks play a passive role in opening them. The second type of demand deposits are called ―derivate deposits‖. Banks actively create such deposits.

MONETARY STANDARDS

1. Meaning and Types of Monetary Standard

Monetary standard refers to the overall set of laws and practices which control the quality and quantity of money in a country. It is, in fact, the standard money of the country which determines and regulates the exchange value of goods and services. Thus the monetary standard of a nation is its standard monetary unit. A monetary standard aims at maintaining stability in the internal as well as external value of the currency. There have been different types of monetary standards in the evolution of money. But only two types of monetary standards in the recent past. They are metallic or commodity standard and paper or fiat standard. The metallic standard refers to a monetary system in which the value of the monetary unit is expressed in terms of a fixed quantity of some metal. If the monetary system is related to only one metal, it is known as monometallism. Monometallism may refer to the gold standard, if the metal is gold, and to silver standard, if the metal is silver. If the monetary unit is made of two metals, the monetary standard is called bimetallism. In the paper standard, paper notes circulate as legal tender money. They may be convertible into the metal, gold or silver, of a fixed weight, or inconvertible. In this chapter, we shall study the gold standard, bimetallism and paper standard.

THE GOLD STANDARD

Meaning. The gold standard is a monometallic standard in which the value of the monetary unit is fixed in term of a specified weight and purity. As pointed out by Robertson, ―Gold standard is a state of affairs in which a country keeps the value of its monetary and the value of a defined weight of gold at an equality with one other.‖Coulborn‘s definition is simple. He writes, ―The gold standard is whereby the chief piece of money of a country is exchangeable with a fixed quantity of gold of a specified quality.

Types of the Gold Standard

The meanings of the gold standard, as given above, relates to its general form. But different at

different times adopted different types of gold standard which are explained as under.

1. Gold currency standard.

This standard prevailed prior to 1914 in the UK, USA and certain countries. It was also known as the gold coin standard, gold circulation standard or full or pure gold standard. It had six main features: (i) gold coins of a definite weight and fineness circulated within the country. For instance, in England the sovereign was the gold coin which contained 123.2744 grams of gold of 11/12th purity. (ii) The gold coin (i.e. sovereign in Britain) was full and unlimited legal tender. (iii) Non-gold metallic and paper currency notes also circulated side by side but they were convertible on demand into gold coins at fixed rates, (iv) There was free coinage in gold. Any body could take gold or jewellery to the mint for coinage, (v) Gold coin could be freely minted for other purposes, (vi) Export and import of gold was free and unrestricted.

2. Gold Bullion standard

This standard was in operation in the UK between 1925 and 1931 and in India between 1927 and 1931. This monetary system had five distinguishing features: (i) Gold coins did not circulate within the country. The legal tender currency in circulation consisted of paper currency notes and token coins of silver and other metals. (ii) These were convertible at fixed rates into gold at bars or bullion. For instance, in England currency notes were convertible into gold bars containing 400 oz. of gold at the fixed price of 3-17s-10d per oz. of 11/12th fineness. When India adopted this system in 1927, rupee was convertible into gold bars containing 40 total at the price of Rs.27, 7 annas 10 pies per total. (iii) for converting currency into gold, the monetary authority was required to keep gold bars in reserve. (iv)The monetary authority also bought gold from the public at a fixed price. (v) Gold was freely exported and imported.

3.Gold Exchange standard

This was in operation in India between 1898 and 1913 and in a number of eastern countries which were poor and did not possess sufficient gold. But mostly such countries were under the colonial rule and their currencies were linked with the currency of the ruling country. The principal features of this monetary system were: (i) Gold coins did not circulate within the country. (ii) The currency consisted of paper notes and token coins of silver and other metals. (iii) These were not convertible into gold coins or bullion, (iv) But the local currency was linked with some foreign currency which was on gold currency standard, (v) It was convertible into such foreign currency at a

fixed rate. For instance, the Indian rupee coins were convertible into British sterling at the ratio of 1s-4d per rupee, (iv) Since the currency was indirectly linked with gold, prices of goods and services were consequently determined by the price of the gold, (vii) Gold could not be exported and imported freely. Only the monetary authority was authorized to export and import gold. But actually payments were made in the securities of the two countries. For instance, rupee and sterling securities were bought and sold and England and India respectively at the fixed exchange rate of 1s-4d per rupee.

4. Gold Reserve standard

England was the first country to abandon the gold standard in 1931, followed by the USA in 1933 and France in 1936. This led instability in their exchange rates. To maintain exchange stability, they entered into Tripartite Monetary Agreement in September 1936 and they were joined by the Netherlands, Belgium and Switzerla and circumstance.‖ But it recommended the following general principles for the successful working of the international gold standard.

1. It should involve a common agreement among nations as to the objectives for which it existed.
2. It should bring stability of prices and guarantee stability of exchange.
3. Individual central banks should avoid such action which might endanger stability of prices through their effects on the policy of other central banks. Given these three principles the countries on the gold standard were expected to observe the following rules or conditions for its smooth working.

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2. The country receiving (importing) gold should expand credit within the country and the gold-exporting country should contract credit.
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4. The successful working of the gold standard presupposed the existence of free trade among nations. The gold standard was essentially a laissez-fair standard.
5. The country on the gold standard should strictly adhere to the policy .

Merits of the Gold Standard

The international gold standard which operated for more than three decades in different forms had certain merits.

1. **Inspired Public Confidence**

The gold standard inspired public confidence because the domestic currency was linked with gold. People knew that gold was an internationally accepted medium of payments, and a standard and a store of value. Therefore, they had full confidence in the paper currency which was convertible into gold bullion or coins or securities.

2.No outside Interference

The international gold standard had the merit of working without any outside interference by any other country or international authority.

3.Automatic Operation.

The gold standard functioned smoothly provided ‗the rules of the game‖ were observed. These rules were not complex but easy to understand and follow for the countries. Thus the gold standard provided a simple and automatic monetary system to the countries of the world.

4.Stable Exchange Rates

Another merit of the gold standard was that it maintained stable exchange rates between countries. The exchange rate of every country was fixed in terms of its mint par or the gold value of its currency. The actual exchange rate between gold export and gold import points which took account of the cost of transporting gold from one country to the other. Thus the exchange rate was stable and fluctuations occurred only between the two gold points.

5.Stable Internal Prices

The gold standard secured relative stability of internal prices. When there was an inflow of gold, prices rose. And they fell with gold outflow. But when prices rose, diminished and imports increased. On the other hand, fall in prices led to expansion of exports and decline in imports. These opposite tendencies started gold outflow in the former case and gold inflow in the later case. Ultimately, price stability was maintained in the trading countries.

6.Check on Inflation.

Under the gold standard the currency of a country was linked with gold and was convertible into it. As the issuing of currency was backed by specified quantity of gold, there was a limit up to which the authorities could issue currency. For every increase in the amount of the currency, gold reserves were also required to be increased to a given extent. There was also no fear of inflation, because the country could not increase the quantity of money in unlimited quantity. As against this, the present system of managed paper standard, having a fixed gold backing, leads the authorities to issue paper money in unlimited quantities thereby leading to inflation.

7.Expansion of International Trade.

The gold standard helped in the expansion of international trade. This was made possible by stable exchange rate and stable value of gold in countries. These led to the expansion of international trade and capital movements.

Demerits of the Gold Standard

Despite these merits, the actual working of the gold standard revealed a number of disadvantages which the countries of the world had to experience. Some of them were as under:

1.Fair Weather Standard

Critics pointed out that the gold standard acted like a fair weather friend. It worked smoothly in normal or peace times first but failed during war or economic crises. actual working shows that it had to be suspended during the First World War and finally abandoned during the Great Depression. So it was a fair weather standard.

2.Not Automatic

It is a misnomer to say that the gold standard worked automatically. In fact, all varieties of it had to be managed by the monetary authority or the central bank. The gold standard did not work automatically. The central bank had to change the bank rate in accordance with gold movements in order to affect the price level.

3.**Exchange Stability at the Cost of Economic Stability**

One of the principal objectives of the gold standard was maintain exchange stability. But this was always attained at the cost of economic stability. When every time there were gold movements, the internal

price level had to be adjusted accordingly in order to maintain exchange stability. These price fluctuations ed to internal economic instability which ultimately harmed the country. It is for this reason that now-a-days all countries prefer internal price stability to exchange stability.

4.Anarchy in world Credit Control

Hawtrey characterized the gold standard as state of anarchy in world credit control. Since the gold standard was a laissez-faire standard and operated only under normal times, it failed miserably in conditions of severe inflation or deflation. During the First World War, inflation spread to all countries of the world. On the other hand, when depression started in 1929 it became a worldwide phenomenon. Thus the gold standard by itself was unable to control either inflation or deflation. Rather, it had to sacrifice itself at the altars of inflation and deflation.

5.Deflationary Bias

According to Mrs. John Robinson, the standard had an inherent bias towards deflation. It was in the interest of the gold losing country to deflate prices, But once deflation started it became very difficult to bring revival even with the best efforts of the central bank. The long drawn depression of 1930s proved this fact without any shadow or doubt.

6.No Independent Policy

A country of the gold standard could not follow an independent policy of its own. It had to follow that policy which was adopted by all other countries. Failure to follow a common policy alongwith other countries mean; abandoning the gold standard. This implied breaking of all trade relations with countries on the gold standard which could be harmful for the country.

7.Costly Standard

The gold standard was a costly standard because it was based on gold. Every country had to circulate gold coins or keep gold reserves. As against this the paper standard is much cheaper and also economies the use of gold.

8.Rigid standard

The gold standard was a rigid standard because for its success the rules of the game had to be observed in letter and spirit. A country could not increase the money supply to finance a war pr development activities or any financial emergency without increasing the gold reserves with its central bank. If it had to

export gold to import the necessary equipment, raw materials and other goods it needed for war or development purposes. It was expected to reduce the internal price level by force in keeping with the rules of the gold standard game. Thus it was a highly rigid standard.

9.Adverse Effects of Interest Rate Changes

Under one of the rules of the gold standard, the central bank of the country was required to affect changes in the bank rate in keeping with the outflow of gold movements. When there was an inflow of gold, the bank rate was low.

PAPER CURRENCY STANDARD

Paper currency standard consists of paper money which is unlimited legal tender and token coins of cheap metals. Paper money may be either convertible or inconvertible. Convertible paper money is convertible into gold or silver coins or bullion of specified weight on demand. Paper money is not convertible into coins of a precious metal of bullion now-a-days. Therefore, it is inconvertible. People accept it because it is legal tender. Since it has command of the government, people have to accept it. That is why it is also known as fiat money or standard.

MERITS OF THE PAPER STANDARD

The paper standard, which is universally used, has a number of merits:

1.Economical. The paper standard is cheaper than gold or silver standard. There is no need to waste gold or silver for coinage purpose. Rather precious metals can be used for productive purpose and for making payments to foreign countries. As paper money is not convertible, there is no need to keep gold in the form of reserves. The monetary authorities keep only a fixed quantity of gold in reserve for reason of security. Thus the paper standard is cheap and economical and even a poor country can easily adopt it.

2.Elastic. The paper standard is a highly useful monetary system because it possesses great elasticity. The monetary authority can easily adjust the money supply in accordance with the requirements of the economy. This was not possible under the gold standard. The supply of money can be increased by printing more notes in times of financial emergency, war, and for economic development. It can also be reduced when the economic situation so demands. Thus there is also freedom in the management of the money supply in the economic.

3.Price Stability. As a corollary to the above, the paper standard ensures price stability in the country. The monetary authority can stability the price level by maintaining equilibrium between demand and

supply of money by an appropriate monetary policy.

4.Free form Cyclical Effects. The paper standard is free from the effects of business cycles arising in other countries. This merit was not available to other monetary standards, especially the gold standard, where cyclical movements in one country were automatically passed on to other countries through gold movements.

5.Full Utilization of Resources. The gold standard had a deflationary bias whereby the resource of the country remained unutilized. Whenever there was gold outflow prices fell and resources became unemployed. But this is not the case under the paper standard in which the monetary authority can manipulate monetary policy in order to ensure full utilization of the country's resources.

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UNIT II

VALUE OF MONEY

Quantity theory of Money

The quantity theory of money states that the quantity of money is the main determinant of the price level or the value of money. Any change in the quantity of money produces an exactly proportionate change in the price level. In the words of Irving Fisher, ―Other things remaining unchanged, as the quantity of money in circulation increases, the price level also increases in direct proportion and the value of money decreases and vice versa.‖ If the quantity of money is doubled, the price level will also double and the value of money will be one half. On the other hand, if the quantity of money is reduced by one half, the price level will also be reduced by one half and the value of money will be twice.

Fisher has explained his theory in terms of his equation of exchange:

PT=MV+ M‘ V‘

Where P = price level, or 1 IP = the value of money;

M = the total quantity of legal tender money;

V = the velocity of circulation of M;

M‘ – the total quantity of credit money;

V‘ = the velocity of circulation of M;

T = the total amount of goods and services exchanged for money or transactions performed by money.

This equation equates the demand for money (PT) to supply of money (MV=M‘V). The total volume of transactions multiplied by the price level (PT) represents the demand for money.

According to Fisher, PT is SPQ. In other words, price level (P) multiplied by quantity bought (Q) by the community (S) gives the total demand for money. This equals the total supply of money in the community consisting of the quantity of actual money M and its velocity of circulation V plus the total quantity of credit money M‘ and its velocity of circulation V‘. Thus the total value of purchases (PT) in a year is measured by MV+M‘V‘. Thus the equation of exchange is PT=MV+M‘V‘. In order to find out the effect of the quantity of money on the price level or the value of money, we write the equation as P= MV+M‘V‘

Fisher points out the price level (P) (M+M‘) provided the volume of remain unchanged. The truth of this proposition is evident from the fact that if M and M‘ are doubled, while V, V and T remain constant, P is also doubled, but the value of money (1/P) is reduced to half. Fisher‘s quantity theory of money is explained with the help of Figure (A) and (B). Panel A of the figure shows the effect of changes in the quantity of money on the price level.

Assumptions of the Theory:

Fisher‘s theory is based on the following assumptions:

1. P is passive factor in the equation of exchange which is affected by the other factors.
2. The proportion of M‘ to M remains constant.
3. V and V are assumed to be constant and are independent of changes in M and M‘.
4. T also remains constant and is independent of other factors such as M, M, V and V.
5. It is assumed that the demand for money is proportional to the value of transactions.
6. The supply of money is assumed as an exogenously determined constant.
7. The theory is applicable in the long run.
8. It is based on the assumption of the existence of full employment in the economy.

Criticisms of the Theory:

The Fisher quantity theory has been subjected to severe criticisms by economists.

1. Truism:

According to Keynes, ―The quantity theory of money is a truism.‖ Fisher‘s equation of exchange is a simple truism because it states that the total quantity of money (MV+M‘V‘) paid for goods and services must equal their value (PT). But it cannot be accepted today that a certain percentage change in the quantity of money leads to the same percentage change in the price level.

2. Other things not equal:

The direct and proportionate relation between quantity of money and price level in Fisher‘s equation is based on the assumption that ―other things remain unchanged‖. But in real life, V, V and T are not constant. Moreover, they are not independent of M, M‘ and P. Rather, all elements in Fisher‘s equation are interrelated and interdependent. For instance, a change in M may cause a change in V. Consequently, the price level may change more in proportion to a change in the quantity of money. Similarly, a change in P may cause a change in M. Rise in the price level may necessitate the issue of

more money. Moreover, the volume of transactions T is also affected by changes in P. When prices rise or fall, the volume of business transactions also rises or falls. Further, the assumptions that the proportion M‘ to M is constant, has not been borne out by facts. Not only this, M and M‘ are not independent of T. An increase in the volume of business transactions requires an increase in the supply of money (M and M‘).

3. Constants Relate to Different Time:

Prof. Halm criticises Fisher for multiplying M and V because M relates to a point of time and V to a period of time. The former is a static concept and the latter a dynamic. It is therefore, technically inconsistent to multiply two non-comparable factors.

4. Fails to Measure Value of Money:

Fisher‘s equation does not measure the purchasing power of money but only cash transactions, that is, the volume of business transactions of all kinds or what Fisher calls the volume of trade in the community during a year. But the purchasing power of money (or value of money) relates to transactions for the purchase of goods and services for consumption. Thus the quantity theory fails to measure the value of money.

5. Weak Theory:

According to Crowther, the quantity theory is weak in many respects. First, it cannot explain ‘why‘ there are fluctuations in the price level in the short run. Second, it gives undue importance to the price level as if changes in prices were the most critical and important phenomenon of the economic system. Third, it places a misleading emphasis on the quantity of money as the principal cause of changes in the price level during the trade cycle. Prices may not rise despite increase in the quantity of money during depression; and they may not decline with reduction in the quantity of money during boom. Further, low prices during depression are not caused by shortage of quantity of money, and high prices during prosperity are not caused by abundance of quantity of money.

Cambridge equation

The Cambridge equation formally represents the Cambridge cash-balance theory, an alternative approach to the classical quantity theory of money. Both quantity theories, Cambridge and classical, attempt to express a relationship among the amount of goods produced, the price level, amounts of money, and how money moves. The Cambridge equation focuses on money also differ in explaining the movement of money: In the classical version, associated with Irving Fisher, money moves at a fixed rate and serves only as a medium of exchange while in the Cambridge approach

money acts as a store of value and its movement depends on the desirability of holding cash. Economists associated with Cambridge University, including Alfred Marshall, A.C. Pigou, and John Maynard Keynes (before he developed his own, eponymous school of thought) contributed to a quantity theory of money that paid more attention to money demand than the supply-oriented classical version. The Cambridge economists argued that a certain portion of the money supply will not be used for transactions; instead, it will be held for the convenience and security of having cash on hand. This portion of cash is commonly represented as k, a portion of nominal income (the product of the price level and real income) Assuming that the economy is at equilibrium is exogenous, and k is fixed in the short run, the Cambridge equation is equivalent to the equation of exchange with velocity equal to the inverse of k:

Explanation to the Theory:

The Cambridge economists—like Alfred Marshall and A. C. Pigou—presented an alternative to Fisher‘s version of Quantity Theory. They have attempted to establish that the Quantity Theory of Money is a theory of demand for money (or liquidity preference). The Cambridge version of the Quantity Theory of Money is now presented. Formally, the Cambridge equation is identical with the income version of Fisher‘s instead of money supply.

Criticisms:

1. The Chain of Causation:

Critics argued that all the factors in the equation of exchange are variables and statistical studies have shown that they are interrelated. Moreover, the line of causation is not always from M (money supply) to P (the price level). It may be from V to P. A change in the rate of spending, all the other factors remaining the same, will result in a change in prices just as surely as would a change in the Quantity Theory of money, other things remaining the same. Or a change in T, other things remaining the same, will cause a change in prices. So it is difficult to accept the theory that changes in the quantity of money are always the causes in the price level. Studies have shown that the price level cannot be easily and quickly controlled by changing the amount of money and credit available for the purchase of goods and services. It may also be said that, under certain circumstances, an increase in the quantity of money will not produce any change in the price level. Keynes has pointed out that the Quantity Theory is inapplicable to a country which has unemployed resources (capital and labour not in use). In such a country, creation of more money will lead to more employment and higher production (larger supply of goods) and no change in the price level. Prices will change in proportion to money supply only when there is no scope for increasing production, i.e., when there

are no unemployed resources in the economy.

2. There are Inactive Balances:

Under Fisher‘s formula, the price level depends upon the total quantity of money. But it is only a part of the total quantity of money which influences prices. There always exist inactive balances (hoards) which exert no pressure at all on the prices of goods and services. This is clearly seen during depressions.

3. Simultaneous Changes:

The Quantity liquation cannot be used for analysing the effects, of changes in M, or T, on the price level except on the ceteris paribus assumption, ―other things remaining constant.‖ But in the case of monetary variables such an assumption cannot be made. When M changes, T and V both change. When T changes, M, and V change. The net effect on the price level of a change in any of the variables of the quantity equation depends on how the other variables are simultaneously changed.

4. The Process of Change:

Theory does not show the process through which changes in the amount of money affect the price level. Keynes put great emphasis on this point. He observed that: ―The fundamental problem of monetary theory is not merely to establish identities or statistical relation but to treat the problem dynamically, analysing the different elements involved in such a manner as to exhibit the causal processes by which the price-level is determined and the method of transition from one equilibrium to another.‖

5. The Assumption of Full Employment:

So increase in the quantity of money does not always increase prices. If there are unemployed resources, increase of money increases employment and not prices. As Keynes points out, the Quantity Theory is based on the assumption of Full Employment.

6. The Value of Money Determines the Quantity of Money:

According to Quantity Theory, an increase in the supply of goods or it will cause a fall in the price level P. Monetary and banking practices, increases in the supply of goods always leads to an increase in the supply of money (through creation of credit and otherwise). M therefore, depends on T; they are not independent variables. If this view is correct, the value of money is not determined by its quantity; on the contrary it is the value of money which determines its quantity.

7. Non-Monetary Factors:

Prices may change and the value of money vary for reasons entirely unconnected with the

quantity of money.

Some examples are given below:

(i) Changes in the level of efficiency wages may change costs of production and affect prices.

(ii) If increase of output occurs under conditions of diminishing returns, marginal costs will rise and prices will rise. Similarly, prices will fall if production increases under conditions of increasing returns.

(iii) Increase and decrease of monopoly power will, respectively, increase and decrease prices.

UNIT-III.

DEMAND AND SUPPLY OF MONEY

Keynes in his General Theory severely criticised the Fisherian quantity theory of money for its unrealistic assumptions. First, the quantity theory of money for its unrealistic assumptions. First, the quantity theory of money is unrealistic because it analyses the relation between M and P in the long run. Thus it neglects the short run factors which influence this relationship. Second, Fisher's equation holds good under the assumption of full employment. But Keynes regards full employment as a special situation. The general situation is one of the under-employment equilibrium. Third, Keynes does not believe that the relationship between the quantity of money and the price level is direct and proportional. Rather, it is an indirect one via the rate of interest and the level of output. According to Keynes, ―So long as there is unemployment, output and employment will change in the same proportion as the quantity of money, and when there is full employment, prices will change in the same proportion as the quantity of money.‖ Thus Keynes integrated the theory of output with value theory and monetary theory and criticised Fisher for dividing economics ―into two compartments with no doors and windows between the theory of money.

It is the increase in the quantity of money which by increasing the aggregate demand for goods and services leads to rise in prices, and vice versa. But the experience during the Great Depression has shown that increase in the money supply failed to increase the aggregate demand. The income theory was gradually developed by Tooke, Wick-sell and Afflation and finally by Keynes. According to them, it is changes in income rather than in the money supply which cause changes in the aggregate demand. When income increases, aggregate demand for goods and services also increases. People spend more and the price level rises. On the contrary, with the decline in income, the aggregate demand falls. People spend less and the price level falls.

Therefore, changes in the price level depend upon the volume of expenditure in the economy which in turn is determined by changes in the level of income. And the level of income depends upon the volume of saving and investment in the economy. Thus changes in the price level or value of money are caused by the income and expenditure of the community or by the volume of saving and investment. Thus income and expenditure, and saving investment are the two approaches to the income theory which we discuss below. Income-Expenditure Approach: The income theory of prices involves on the one side an analysis of income and aggregate demand, and on the other, an analysis of costs and aggregate supply. Prices are determined by money income and real income.

The total money income (Y) is the value of goods and services produced in any period of time and expressed in terms of money. It is determined by the remuneration paid in terms of money ю the factors of production. Thus it also refers to the sum of total expenditure (E) incurred on goods and services pricing a period. On the other hand, the _real‘ income is the total value of real money value of goods and services expressed in terms of a general price level of a particular year taken as the base. Thus the money value of real income is the money income which is determined by the prices of goods and services or output. Symbolically,

$$Y = P.O.$$

Where Y is Money income or money expenditure which produces a flow of income, P is the general level of prices, and O is the physical volume of goods and services produced.

It follows that

$$P = Y/O$$

It means that prices are determined by the ratio of money income to total output. When money income (Y) rises more rapidly than output (O) prices (P) will tend to increase. If, on the other hand, output (O) increases more rapidly than money income (10, prices (P) will tend to fall. It is clear from the above that total money income equals total expenditure which, in turn, is equal to consumption expenditure (C) plus investment expenditure (I). Therefore, e (C) plus investment expenditure (I). Therefore,

$$\text{symbolically, } Y = E = C + I.$$

According to Keynes, it is the total money income which determines the total expenditure of the community. An increase in the money income means increase investment expenditure, the propensity to consume being stable in the short run. The increased investment will raise effective demand which will in-turn, raise output and employment. But what about prices? So long as there is unemployment, prices do not rise with the increase in output. This is because the supply of factors is perfectly elastic. Therefore, output will change in the same proportion as the quantity of money, and there will be no change in prices. When the supply of factors becomes somewhat inelastic (or factor are in short supply), this may lead to increase in marginal costs and prices.

As full employment is reached, the elasticity of supply of output falls to zero (perfectly inelastic), and prices rise in proportion to the increase in the quantity of money. Thus the income theory states that the increase in the quantity of money depends upon increase in money income and aggregate expenditure, and prices start rising when the full employment level is being reached. Once

the full employment level is reached, prices rise in the same proportion as the increase in money income and aggregate expenditure.

Saving-Investment Approach:

Introduction:

An alternative to the Keynesian income-expenditure theory is the saving investment approach to income theory. In fact the income-expenditure approach (Y = C + I) is the same thing as the saving-investment approach. Both saving (S) and investment (I) are defined as the excess of income over consumption (Y-C) so that they are necessarily equal.

Symbolically

$$S = Y\text{-}C$$

$$I = Y - C$$

$$S=I.$$

Keynes also established this equality in another way. He defined income as equal to consumption plus investment (Y= C + I), and saving as the excess of income over consumption (S = Y-C). Thus

$$Y – C + I \text{ or } I = Y – C \quad S = Y\text{-}C$$

$$S = I$$

The Theory:

We have seen above that the equality between saving and investment is brought about by the mechanism of income. On the other hand, income depends upon relation between saving and investment. So long as saving and investment are equal, there will be the equilibrium level of income and the price level will be stable. If saving and investment are disturbed, the price-level also changes via the change in expenditure. If saving exceeds investment, it means that people reduce their expenditure on goods and services. They are hoarding more money and spending less. This reduces the velocity of circulation of money. This leads to a reduction in the income of the producers of goods and services.Reduced expenditure and income lead to a fall in the price level. As prices fall, investment also declines due to a fall in the marginal efficiency of capital which leads to further falling income, output, employment, and prices. This process will continue till prices reach the bottom of the depression. If investment exceeds saving, people increase their expenditure on goods and services. They are spending more and saving less. This causes the velocity of circulation to increase. This increases the income of the producers of goods and services. Increase in expenditure and income lead to a rise in the price level. This will increase the profit expectations or marginal efficiency of capital. As a result, investment will increase further which will, in turn, raise

employment, incomeexpenditure, output and prices to still higher levels. But the increase in investment leading to an increase in aggregate expenditure, demand, and income do not lead to a rise the price level immediately. So long as the output of goods and services rises proportionately with the increase in the demand for goods and services, there would not be a general rise in the price level. If output does not increase proportionately, increase in investment will increase income and the price level. But increase in output is possible only if there are unemployed resources in the economy. When the economy reaches the full employment level, further increase in income will not raises output to the level of increase in aggregate expenditure. But it will to an upward rise in the price levelling the same proportion as the increase in income. To conclude, it is the inequality in saving and investment that brings about changes in the price level, and changes in the price level are due to changes in income rather than in the quantity of money.

Quantity Theory:

The income-expenditure theory of money is considered superior to the quantity theory of money on the following grounds:

1. Explains Business Cycles:

The quantity theory cannot explain changes in prices during the upswing and downswing of a business cycle. It does not explain why an abundance of money during a depression fails to bring about a revival, and shortage of money stops a boom. The income theory is superior to the quantity theory because it explains them. According to the saving investment theory, when investment exceeds saving rival starts from a depression. More increase in the supply of money is not enough to bring about a revival. It is the rise in business expectations of profit (or the marginal efficiency of capital) that encourage investment and the revival starts. On the other hand, a boom does not stop due to decrease in the money supply alone. Rather it stops because saving exceeds investment due to the falling the expectations of profit. Thus it is changes in investment due to changes in business expectations of profit that lead to cyclical upswing and downswing. Crowther has apathy said, ―The Quantity Theory of Money explains, as it were, the average level of the sea; the saving and Investment Theory explains the violence of the tides.

2. Explains Changes in Velocity of Circulation of Money:

The quantity theory of money does not explain the causes of changes in the velocity of circulation of money. The saving-investment theory is superior in that it gives an adequate explanation of such changes. When saving exceeds investment, it means that people are hoarding

more money and spending less. This reduces the velocity of circulation of money. On the contrary, when investment exceeds saving, people are spending more which causes the velocity of circulation of money to increase. Thus changes in the velocity of circulation of money are caused by the relationship between saving and investment.

3. Explains Causal Relationship between Quantity of Money and Price Level:

The quantity theory of money fails to explain the causal relationship between the quantity of money and the price level. It simply explains that the relationship between the two is direct and proportional. The saving-investment theory is superior in that it shows that the actual relationship between the money supply and price level is neither direct nor proportional. It is disequilibrium between saving and investment that leads to changes in the spent. If investment exceeds saving, income will increase which will raise aggregate expenditure. It is the rise in business expectations of profit (or the marginal efficiency of capital) that encourage investment and the revival starts. On the other hand, a boom does not stop due to decrease in the money supply alone. Rather it stops because saving exceeds investment due to the falling the expectations of profit.

4. **Applicable in the Full Employment and Unemployment:**

The quantity theory of money is based on the assumption of full employment that is why it establishes a direct and proportional relationship between the quantity of money and price level. The saving-investment theory is superior to it because it analyses the effect of money on the price level when there is unemployment in the economy.

5. Explains Short Run Changes:

The saving-investment theory is more realistic than the quantity theory of money because it explains short run changes in the value of money (or price level), whereas the quantity theory of money explain the long-run changes. This is unrealistic because in the long run we are all dead.

6. **Considers both Monetary and Real Factors:**

Again, the saving-investment theory is superior to the quantity theory of money in that it takes into consideration both the monetary and real factors in determining the value of money. Such factors as saving, investment, aggregate output are taken along with the quantity of money and aggregate expenditure. This makes the income theory better than the quantity theory of money.

7. Policy Implications:

The policy implications of the saving-investment theory are more realistic than the quaintly theory of money. The quantity theory of money concentrates exclusively on monetary policy. On the other hand, the saving-investment theory lays more emphasis on expenditure and income that affect

economic activity more than the quantity of money. This fact has been proved by the dominance of income (fiscal) policy over the monetary policy since 1950s. We may conclude with Crowther that the saving-investment theory —goes considerably nearer to the reality of things than the quantity theory. It reveals the fundamental tenncies of which the behaviour of money and prices is merely the surface of the symptom.

SUPPLY OF MONEY

The **money supply** is all the **currency**and other liquid instruments in a country's economy on the date measured. The **money supply** roughly includes both **cash** and deposits that can be used almost as easily as **cash**. Governments issue paper **currency**and coin through some combination of their central banks and treasuries. The money supply is the total value of money available in an economy at a point of time. There are several ways to define "money", but standard measures yusually include currency in circulation and demand deposits. The money supply is all the currency and other liquid instruments in a country's economy on the date measured. The money isupply roughly includes both cash and deposits that can be used almost as easily as cash.

Governments issue paper currency and coin through some combination of their central banks and treasuries. Bank regulators influence money supply available to the public through the requirements placed on banks to hold reserves, how to extend credit and other regulation.

Money Supply

Understanding Money Supply

Economists analyze the money supply and develop policies revolving around it through controlling interest rates and increasing or decreasing the amount of money flowing in the economy. Public and private sectoranalysis is performed because of the money supply's possible impacts on price level, inflation, and the business cycle. In the United States, the Federal Reserve policy is the most important deciding factor in the money supply. The money supply is also known as the money stock.

Effect of Money Supply on the Economy

An increase in the supply of money typically lowers interest rates, which in turn, generates more investment and puts more money in the hands of consumers, thereby stimulating spending. Businesses respond by ordering more raw materials and increasing production. The increased business activity raises the demand for labor. The opposite can occur if the money supply falls or

when its growth rate declines.

Change in the money supply has long been considered to be a key factor in driving macroeconomic performance and business cycles. Macroeconomic schools of thought that focus heavily on the role of money supply include Irving Fisher's Quantity Theory of Money, Monetarism, and Austrian Business Cycle Theory.

Historically, measuring the money supply has shown that relationships exist between it and inflation and price levels. However, since 2000, these relationships have become unstable, reducing their reliability as a guide for monetary policy. Although money supply measures are still widely used, they are one of a wide array of economic data that economists and the Federal Reserve collects and reviews.

How Money Supply is Measured

The various types of money in the money supply are generally classified as Ms, such as M0, M1, M2 and M3, according to the type and size of the account in which the instrument is kept. Not all of the classifications are widely used, and each country may use different classifications. The money supply reflects the different types of liquidity each type of money has in the economy. It is broken up into different categories of liquidity or spendability.

M0 and M1, for example, are also called narrow money and include coins and notes that are in circulation and other money equivalents that can be converted easily to cash. M2 includes M1 and, in addition, short-term time deposits in banks and certain money market funds.[1] M3 includes M2 in addition to long-term deposits. However, M3 is no longer included in the reporting by the Federal Reserve.[3] MZM, or money zero maturity, is a measure that includes financial assets with zero maturity and that are immediately redeemable at par. The Federal Reserve relies heavily on MZM data because its velocity is a proven indicator of inflation.

Money supply data is collected, recorded, and published periodically, typically by the country's government or central bank. The Federal Reserve in the United States measures and publishes the total amount of M1 and M2 money supplies on a weekly and monthly basis. They can be found online and are also published in newspapers. According to data from the Federal Reserve, as of June 2020 a little over $5.2 trillion in M1 money was in circulation, and more than $18.1 trillion in M2 money. M1 is the money supply that encompasses physical currency and coin, demand deposits, traveler's checks, and other checkable deposits.M3 is a measure of the money supply that includes M2, large time deposits, institutional money market funds, and short-term repurchasemonetary base is

the total amount of a currency in general circulation or in the commercial bank deposits held in the central bank's reserves.The velocity of money is a measurement of the rate at which consumers and businesses exchange money in an economy.Monetary aggregates are broad measures of how much money exists in an economy at various levels, including currency, deposits, and credit.M2 is a measure of the money supply that includes cash and checking deposits (M1) as well as near money.

DEMAND FOR MONEY

Keynes explained the asset motive through what he termed 'speculative demand'. In this theory, he argued that demand for money is a choice between holding cash and buying bonds. If interest rates are low, then people will tend to expect rising interest rates, and therefore a fall in the price of bonds

. Types of demand for money

1. Transaction demand – money needed to buy goods – this is related to income.
2. Precautionary demand – money needed for financial emergencies.
3. Asset motive/speculative demand – when people wish

1.Transaction demand for money

Transaction demand for money – the money we need to purchase goods and services in day to day life.ln the classical quantity theory of money. The demand for money is a function of prices and income (assuming the velocity of circulation is stable.) If income rises, demand for money will rise.

In an inventory model, the demand for holding money depends on the frequency of getting paid, and the cost of depositing money in a bank. When employees are paid, they will hold some money to buy goods. If they are paid once a month, they may deposit half to benefit from interest payments, and then withdraw after two months. However, electronic transfers and debit cards have made this less relevant.

Precautionary demand for money

Precautionary demand for money – the money we may need for unexpected purchases or emergencies.

Asset motive The asset motive states that people demand money as a way to hold wealth. This may occur during periods of deflation or periods where investors expect bonds to fall in value.

Speculative demand

Keynes explained the asset motive through what he termed ‘speculative demand’. In this theory, he argued that demand for money is a choice between holding cash and buying bonds.If interest rates are low, then people will tend to expect rising interest rates, and therefore a fall in the price of bonds. In this case, demand for holding wealth in the form of money will be higher. If interest rates are high, and people expect interest rates to fall, then there is likely to be greater demand for buying bonds and less demand for holding money. If interest rates fall, then the price of bonds will rise.