
UNIT 3 MONEY AND PRICES

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3.0 OBJECTIVES

After studying this unit, you should be able to:

- explain the factors which **determine** the value of money and price level
- justify the quantity theory of money
- differentiate **between** the cash transaction and cash balances approaches to the quantity theory of money
- outline the superiority of Keynes theory over classical theory of money
- analyse the restatement of quantity theory of money by Milton **Friedman**.

3.1 INTRODUCTION

The value of money differs from the value of other objects in one fundamental respect, that is the value of money represents general purchasing power or command over 'things in general'. High prices of other things are reflected in the low **exchange** value of money. **Similarly**, low prices of other **things** mean high exchange value of money. The value of **money** is, **therefore**, the reciprocal of the general price level (p) and can be expressed as $1/p$.

One of the basic problems is to identify the factors which determine the value of money or to explain the causes responsible for changes in the purchasing power of money. **In** this unit, you will study various theories related to the value of money and prices. In particular, we will discuss the quantity theory, Keynesian theory and Milton Friedman's quantity theory of money.

3.2 QUANTITY THEORY OF MONEY

Classical economists try to explain these changes in the general level of prices with the help of the 'Quantity Theory of Money'. This theory is generally associated with the name of American Economist Irving Fisher, though its origin can be traced back to **Devin Zatti**, an Italian writer of the 16th century, **Bodin**, **Cantillon** and **Hume** who gave vigorous formulations of the idea embodied in the theory.

According to the Quantity Theory of Money the value of money depends on the quantity of money in circulation at a given point of time in **the** economy. **Essentially**, the quantity theory of money hypothesizes that changes in the general price level are to be explained with **reference** to **changes** in the **quantity** of money in circulation. Sc

an increase in the quantity of money leads to an increase in the price level, while a contraction in the quantity of money leads to a decline in the general price level. In its orthodox version **the quantity theory states that, other things remaining unchanged, the changes in the general price level are directly proportional to the changes in the supply of money.** To cite Prof. Taussig, *'double the quantity of money and other things being equal, prices will be twice as high as before; and the value of money as one half. Halve the quantity of money, other things being equal prices will be one half of what they were before; and the value of money will be doubled.'*

The quantity theory of money has two approaches :

- 1) The Cash-transaction approach or Fisher's version
- 2) The Cash-balances approach or the Cambridge version.

Let us understand the basic difference between these two approaches.

3.2.1 Cash Transactions Approach

The Cash Transactions approach to the quantity theory of money is usually ascribed to Simon Newcome and Irving Fisher. Hence, this approach is also called 'Fisher's Equation'. Fisher explains changes in the general price level (P) with the help of changes in the quantity of money in circulation (M), its velocity of circulation (V), and volume of transactions (T) Fisher's equation of exchange reads as :

$$MV = PT \dots\dots\dots (1)$$

or, Aggregate supply of money = Total value of all goods and services

According to Fisher, the quantity of money in any economy depends upon two aspects : 1) the quantity of cash with the public (M), and 2) the velocity of circulation of the cash (V).

We know that in an economy cash does not remain idle (except when money is hoarded). In the event of a transaction money changes hands. **The average number of times a currency note changes hands during a given period of time is known as its velocity of circulation.**

Velocity of Circulation : For example, if a 100 rupee note changes four hands in a day, it has served the transaction needs worth Rs. $100 \times 4 = 400$. Here we may say that though the cash (M) was only Rs. 100, the quantity of money (MV) was equal to Rs. 400. However, all units of cash do not circulate at the same rates. Some currency notes circulate faster than the others, So, for finding the quantity of money in an economy, we need to estimate the **average velocity of money. When we multiply the average velocity of money with the quantity of cash in hand in the economy during the year, we get the total money supply in the economy during that year.**

It is a common knowledge that money is demanded mainly for the purposes of transactions. The total demand for money would, therefore, be equal to the total value of goods and services **transacted** during a given period. The latter would in turn be equal to the volume of goods and services transacted (T) multiplied by average price of these goods and services (P).

Equation $MV = PT$ which we have stated earlier may also be rewritten as :

$$P = \frac{MV}{T} \dots\dots\dots (2)$$

The above equation implies that the price level at a given point of time may be taken as the ratio of total money supply to the total volume of goods and services transacted at that time.

Assumptions : Fisher's version of quantity theory of money is based on the following three assumptions :

- 1) It assumes that the velocity of money (V) is constant and is not affected by the changes in the quantity of cash (M) or the price level (P).
- 2) It is also assumed that the volume of goods and **services** (T) remains constant as it depends on the size of natural resources, climatic conditions, techniques of production, productivity of labour, transportation facilities, etc. The constancy of **total volume** of goods and services transacted (T) is based on another assumption

that there exists full employment in the economy, i.e., there are no unemployed productive resources which can be used to increase production of goods and services to be exchanged for money.

- 3) In quantity theory of money the variable price (P) is a passive factor. It is affected by other factors in the equation, but not vice versa. Thus, the association between price (P) and other factors in the equation is only one-sided in as much as P is determined by other elements in the equation.

In short, the Fisher's version of quantity theory suggests that:

- 1) Price level (P) is determined by quantity of cash in hand (M) average velocity of circulation of money (V) and the volume of goods and services transacted (T)
- 2) P does not change by itself
- 3) V and T being assumed constant, a change in M result in a proportionate change in P.

Fisher also provided an extended form of his original equation of quantity theory. In this form he classifies money into two groups: i) the cash held by the public; and ii) the bank deposits.

In the original equation i.e., Equation 1, presented earlier he had considered only the first variable. In his extended version he introduces a new set of variables, viz. demand deposits (M') and the velocity of circulation of demand deposits (V'). Equation 1, thus, can be modified as:

$$PT = MV + M'V' \dots\dots\dots (3)$$

$$\text{or } P = \frac{MV + M'V'}{T} \dots\dots\dots (4)$$

According to Fisher, V is a short run constant and M' cannot change automatically because there is a stable relationship between the primary money, the bank reserves and the volume of bank deposits. Thus, with the help of extended version also Fisher came to the same conclusion as with his original version, i.e., the changes in quantity of money are the exclusive cause of changes in general price level.

Criticism of Cash Transactions Approach : The cash transactions approach was severely criticised by some of the later economists. The major points of criticism are presented below :

- 1) Fisher's version of quantity theory is based on some unrealistic assumptions. His assumption 'other things remaining unchanged' implies that V and T remain - constant In reality, change in M affect V and then T. Fisher also assumes that M affects P but not vice versa. But it is easy to find instances where P has been active and has influenced M and V. In fact, all the variables in the equation are mutually interdependent. The quantity theory ignores this mutual inter-dependence and reaches the conclusion that money (M) is the cause and price (P) is the effect
- 2) The quantity theory is static in nature. The theory may apply to a community which is living under static conditions.
- 3) The theory tries to establish an unrealistic direct causal relationship between money (M) and price (P) without realising the importance of other monetary factors and relative prices. The quantity theory of money over-emphasises the role of quantity of money in determining the price level.
- 4) It ignores not only certain monetary factors but also the non-monetary factors, like diversification of indpstry, differentiation in human wants, transport facilities, use of bank credit, etc. These are found to have a significant effect on the price level.
- 5) This theory assumes the existence of full employment and postulates that beyond full employment any increase in M will result in an increased P. But when there are unemployed resources, the supply curve of output would be elastic and as such the increase in-money supply (M) may lead to an increase in real income and output rather than in Price (P). However, the situation of full employment is itself highly improbable.
- 6) The variables P and T in Fisher's Equation lack clarity of identification. P

includes prices of all kinds of commodities and factors. They may be moving in opposite directions or some of them may not be moving at all. Similarly T includes all kinds of goods and services. How to combine these to get variables P and T seems highly difficult in practice.

- 7) Fisher only explains that change in M results in a change in P. But he does not explicitly specify the process by which M affects P.
- 8) In Fisher's version, money is needed only for transaction purposes. It ignores the fact that money is also used as a store of value and for speculative activities.
- 9) The equation of exchange cannot express the changes in the structure of relative prices caused by monetary factors.
- 10) Fisher has also failed to capture the role of rate of interest as a link between money (M) and price (P).

In spite of all its limitations, Fisher's quantity theory of money has attracted sufficient attention of students and policy-makers alike. A number of instances can be cited from economic history to prove validity of this version of Quantity Theory. The rapid rise in prices in India in recent years is also stated to be associated with a substantial increase in the supply of money in the economy. However, it needs to be emphasized here that what quantity theory postulates is not the complete truth. So, we need to look beyond.

Check Your Progress A

- 1) What is quantity theory, of money ?

.....

- 2) List the assumptions of Fisher's version of quantity theory.

.....

- 3) Which of the following statements are True and which are False?
 - i) Exchange of money and the general price level move in the same direction.
 - ii) According to the quantity theory of money, the value of money depends upon the quantity of money in circulation at a given point of time in the economy.
 - iii) According to Fisher, the quantity of money in any economy depends upon :
 - a) the quantity of cash with the public ; or
 - b) the velocity of circulation of the cash.
 - iv) All units of money do not circulate at the same rate.
 - v) Money is demanded only for transactions purposes.
 - vi) Fisher's quantity theory of money assumes that it is beyond full employment that any increase in M will result in an increased P.

3.2.2 Cash Balances Approach

Some Cambridge economists, viz. Alfred Marshall, A.C. Pigou, J.M. Keynes, and D.H. Robertson gave a different version of quantity theory of money, known as the **Cash Balances Approach or the Cambridge Version**. The earlier version of quantity theory laid emphasis on the supply side of money, while the cash balances approach emphasised the demand side of money. **According to cash balances approach the value of money depends upon the demand for money; but the demand for money arises on account of its function as a store of value.** The essence of the Cash balances approach has been clearly stated by Marshall as follows : *'in every state of society there is some fraction of their income which people find it worthwhile to keep in the form of currency ; it may be a fifth or tenth or a twentieth. . . A large command of resources in the form of currency renders their business easy, smooth and puts them at an advantage in bargaining.'*

According to Marshall people keep a certain part of their **annual** income and **wealth** in the form of 'ready purchasing power'. The aggregate demand for money, **therefore**, depends upon their annual income and the size of their wealth. Treating the **demand** for money as a stable function of income and property, Marshall expressed it in **terms** of the following equation :

$$M = KY + k' A \dots\dots\dots (5)$$

Where M stands for the quantity of money, **K** represents the portion of income **which** people want to hold in cash, **k'** is the portion of their assets they want to hold in **cash**, A is the money value of assets **and** Y is the total annual money income.

Those who followed Marshall, later neglected the assets part of the equation. **Further** in the Marshallian equation, the term **Y** was further decomposed **into** real total output (O) and the price level (P), thus giving us the equation :

$$M = k P O \dots\dots\dots (6)$$

$$\text{or, } P = \frac{M}{k.O} \dots\dots\dots (7)$$

According to Marshall's equation (Equation 7), P is influenced not only by changes in M, but also by changes in k.

Marshallian cash-balance approach has been criticised because when we divide both sides of Equation (6) by k and replace **1** on the left **hand** side by V, we again arrive

at Fisher's Equation (though in its income version). But to criticise cash-balance approach on this count is to **entirely** miss its essence. As **Friedman** points out, "The two approaches stress different aspects of money, make different **definitions** of money seem natural, and lead to emphasis being placed on different variables and analytical techniques."

Cambridge Equation : A. C. Pigou stated the Quantity Theory somewhat differently when he put the cash balance equation in the following form :

$$P = \frac{kR}{M} \dots\dots\dots (8)$$

Where R is the total real income, k stands for the proportion of total real income to be maintained in legal tender, M is the total units of legal tender and P represents the value (or purchasing power) of money. But we know that all people do not hold cash strictly in the form of legal tender money. Some of them hold part of it in the form of bank deposits. Keeping this in view the above equation was suitably modified to make it applicable to those situations in which k is held partly in currency and partly in the form of bank **deposits**. The equation in its modified form becomes :

$$P = \frac{KR}{M} (c + h(1 - c)) \dots\dots\dots (9)$$

$$\text{or, } M = \frac{KR}{P} (c + h(1 - c)) \dots\dots\dots (10)$$

In this equation c represents the proportion of **k** which the community **holds** in the form of actual legal tender, and h stands for the proportion of legal tender money which is kept in the form of bank deposits. D.H. Robertson gave a similar equation to that given by Pigou. According to him :

$$M = k PT \dots\dots\dots (11)$$

$$\text{or, } P = \frac{M}{k T} \dots\dots\dots (12)$$

where, M represents cash with the public, P the price level, T the total amount of goods and services and k is the fraction of T for which the people wish to keep in cash. **Robertson's** equation is considered better than Pigou's as it is a simpler explanation of the value of money,

Criticism of Cash Balance Approach

Cash balances approach suffers from the following shortcomings :

- 1) **The** introduction of the factor R (which represents the current income of

community)' suggests that a change in its quantity is one of those **important** factors that directly influences the demand for cash reserves. This is not true.

- 2) According to Keynes the importance given to the proportion of bank deposits to the community's income is misleading when it is extended beyond the income & deposits. However, the contention of this approach that the amount of real **balances** held is determined by the comparative advantages of holding resources in cash, and in alternative forms, so that a change in R will be attributable to a change in these comparative advantages, is no doubt, useful and instructive.
- 3) The cash balances equation does not throw light on the disturbances which occur **owing** to a change in the proportion in **which** deposits are held for different **purposes**, like savings, business and income.
- 4) The Cambridge approach **ignores** the speculative demand for money which is one of the most important motives for holding money.
- 5) This approach does not **furnish** an adequate monetary **theory** which could be used to explain and analyse the dynamic behaviour of prices in the economy.

3.2.3 Comparison of Cash Balances Approach and Cash Transactions Approach

Some economists believe that these two quantity equations are basically the same. While the Fisher's version, by incorporating V, emphasises the value of money over a period of time, the cash balances equation explains the value of money at a point of time by including the concept of the demand for cash balances, k (which is just the reciprocal of V). Robertson sums up this opinion by stating that, *'the two equations are different observations of the same phenomenon'*.

However, **these** two approaches also have their points of dissimilarity. The two approaches give different interpretations to the demand for money. While cash transactions approach looks upon money as a flow, the cash balances approach looks upon money as a stock. Fisher's approach emphasises velocity of **money**, while Pigouvian approach stresses idle balances kept as a part of the national income.

The cash balances approach is considered superior to the cash transactions approach. By focussing attention on the cash balances which people like to hold (comparing at the margin the relative advantage of holding money as against spending or investing it), the cash balances approach highlights the subjective valuation of individuals.

According to Marshall, the chief merit of the cash balances equation is that it removes the serious complications which creep in when we establish a relationship between the velocity of money in circulation and the value of money, as has been done in the cash transactions approach.

The cash balances approach is the forerunner of the modern liquidity preference theory which is significant for the determination of equilibrium level of income and employment in an economy, **and** also in explaining the limitations of monetary policy while handling cyclical phenomena in an economy.

Check Your Progress B

- 1) What is cash balances approach to the quantity theory of money?

.....

- 2) **State** superiority of Cambridge approach over Fisher's approach.

.....

- 3) **Which** of the following **statements** are True and which are False?

- i) In Marshall's equation P is influenced not only by **changes** in M but also in **K**.

- ii) 'V' stands for reciprocal of 'K' in the Marshallian approach.
- iii) Cash balances equation is associated with Harvard economists.
- iv) Proportion of total real income is held partly in legal tender and partly in bank deposits.
- v) 'K' in the equation of exchange denotes the fraction of money income which people desire to keep in the form of currency.

3.3 EYNES' THEORY OF MONEY AND PRICES

As you know, the quantity theory of money states that any change in the quantity of money produces a proportionate change in the same direction in the general level of prices. In other words, the value of money is a function of supply of money, such that when the supply of money is doubled its value is halved, and *vice versa*. This conclusion is based on the assumption of full employment, given the aggregate output. The causal relationship between the supply of money and the level of prices constitutes the core of the quantity theory of money. But this relationship is not so simple and direct as classical economists make us believe. In the classical analysis, the real and the monetary sectors of the economy were taken as completely self-contained and independent of one another. The classical economists failed to realise that changes in the aggregate money supply could not influence the general price level of the economy without first affecting the real prices because the former was merely an aggregation of the later. Any change in the general price level must necessarily be traceable to prior changes in the relative prices of goods and services. Consequently, it is necessary to relate the theory of money with the theory of relative prices in order to find out the real chain of causation between changes in the quantity of money and changes in the general price level.

Keynes criticised the classical approach which regarded money as neutral, i.e., having no influence on equilibrium of the real sector of the economy. **The classical theory of money aimed at the stationary equilibrium, while Keynes was largely concerned with developing a theory of the shifting equilibrium wherein changing views about the future also influence the present situation.** In such a world, money is important because it serves as a vital link between the present and the future.

In his book 'General Theory of Employment, Interest and Money', Keynes has given a new version of quantity theory of money. He has integrated the theory of prices with the general theory of value and output. **He denies any direct causal relationship between increases in the quantity of money and the rise in the level of prices so long as there are unemployed resources in the system.**

According to Keynes an increase in the quantity of money increases the amount of money available for satisfying the liquidity needs for fulfilling the speculative motive. Its initial impact is to lower the rate of interest in the economy. A lowering of the rate of interest tends to increase effective demand for investment, which in turn is associated with rising income, employment and output. With the rise in income, output and employment, the prices may start rising even before the point of full employment is reached. This may happen due to four main reasons:

- 1) Since productive resources are not homogeneous, an increase in output will generally involve diminishing returns and increasing supply prices, even though the unit costs of all factors remain unchanged.
- 2) The wage rate is very likely to increase with an increase in output.
- 3) The prices of other factors entering into marginal costs also rise in varying proportions.
- 4) Since the short period supply schedules in different markets often show varying degrees of elasticity, the prices may therefore start rising even before the situation of full employment is attained.

With the increase in output, the initial emphasis is almost exclusively on increase in employment. But, later on when the situation comes nearer the full employment stage, the emphasis shifts more towards change in prices. Once the full employment is reached, further increases in effective demand become truly inflationary in the sense that they entirely result in rising prices.

The above mentioned relation between money and level of prices clearly shows that there is no direct and proportional relationship between the quantity of money and the price level as hypothesized by the traditional quantity theory of money. Rather, this relationship is indirect and remote because a whole complex of relationships is set in motion through changes in the rate of interest. Further, a change in the rate of interest may or may not lead to a corresponding change in the investment demand. If the rate of interest is able to influence the investment demand, then through the later it also affects the levels of employment, income and output and thereby leads to changes in the cost of production and prices. Whether or not this process works itself out fully depends upon the nature of the two other main determinants of income viz., the marginal efficiency of capital and the propensity to consume. For instance, if the marginal efficiency of capital, for certain reasons, suffers a decline, a fall in the rate of interest may not lead to an increase in the volume of investment, output and employment etc., and as such the prices may not rise in spite of an increase in the quantity of money. In the same way, if the propensity to consume declines because of certain reasons, increase in the quantity of money may not be associated with increase in prices. Thus, the relationship between the quantity of money and the level of prices is a complex one ; it is established through a long chain of causation as shown in Figure 3.1.

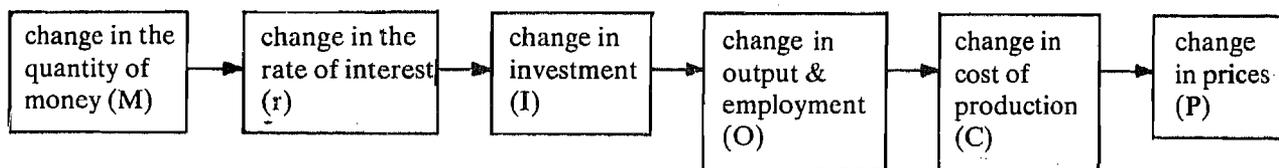


Fig. 3.1 Relationship between Quantity of Money and the Level of Prices

Criticism of Keynesian Theory

- 1) Keynesian theory is too general. It is, therefore, difficult to study actual price changes with the help of Keynesian theory. The market conditions of distribution of specific goods vary so widely, the technical conditions of production of various goods are so different, and variations in the conditions of demand affect various commodities so differently that the propositions stated in terms of total demand, total output, general technical conditions, etc., cannot be treated anything more than the very first step in a theory of prices.
- 2) Keynesian formulation is basically static in nature. In real world situations, production and consumption extend beyond a period. They may be a continuation of the past or a continuation into the future. And over time, their composition and, therefore, the set of relative prices would undergo a change. Being static in nature, Keynesian approach is not able to handle them.
- 3) Keynes holds that the level of output can be changed by changing the quantity of money which in turn depends upon the rate of interest. But this is conditioned by a long line of reasoning. No doubt, it is possible to change the level of output by changing the quantity of money stock, and the rate of interest by changing the supply of money stock, but only if other conditions of costs and revenues operate appropriately.

Superiority of Keynesian Theory

- 1) Keynes' theory of prices integrates the monetary theory with the theory of value, The theory of value explains that the price (which is value expressed in terms of

money) is governed by the conditions of demand and supply in the product market, which in turn are influenced by factors like marginal cost, marginal revenue and the degree of elasticity. Keynes shows that prices rise because of the rise in costs of production resulting from the inelasticity of short period supply of output and employment

- 2) Besides integrating the theory of value and the theory of money, Keynes also integrates the theory of output with the theory of money.
- 3) According to classical theorists, every increase in the supply of money leads to inflation. But to Keynes only that expansion in the money supply leads to inflation which goes beyond the level of full employment. By enabling us to distinguish between an inflationary and a non inflationary expansion of supply of money, Keynesian theory helps us to understand inflation in the right perspective.
- 4) One of the most important merits of Keynesian theory lies in removing the old notion that prices are directly determined by the quantity of money. Keynes brings forth the fact that the causal process which exists between the quantity of money and prices is indirect, uncertain, complex and is brought about through changes in the rate of interest.
- 5) The Keynesian theory differentiates between the determination of general price level and individual prices. Individual prices of various goods are determined by their demand and supply and the type of market, while a large number of considerations enter the determination of the general price level.

3.4 MILTON FRIEDMAN'S QUANTITY THEORY OF MONEY

Keynes argued that the quantity theory, as propounded by Fisher and Cambridge economists, was too simplistic as it believed in a direct link between supply of money and price level. This led to the fall in the popularity of the classical version of quantity theory. In 1956, Milton Friedman edited a book entitled 'Studies in Quantity Theory of Money' which helped in the re-establishment of the quantity theory. His formulation is known as the **New or Modern Version of Quantity Theory of Money**. The setting of the modern version of quantity theory is as follows :

- 1) The modern theory is a theory of demand for money.
- 2) Like Pigou, **Friedman** also believes in money serving as an asset. He maintains that money is only one of the forms of wealth, the other forms being bonds, equities, physical goods and human wealth. Each of these has its distinctive features and each offers some return in money or kind. According to Friedman, the second type of demand for money is for transaction purposes (as stated in cash transactions approach also), where money serves as a medium of exchange.
- 3) According to Friedman, the demand for money, besides being determined by price and income levels, is also determined by the cost of holding money. **The cost of holding money consists of: a) the rate of interest on alternative forms of assets, and b) the expected rate of change in the price level.** An increase in either or both of these components will cause a fall in the amount of money which people would like to hold in cash **At higher cost of holding money, people will economise on their cash balances. Conversely, a decrease in the rate of interest or a fall in the price level reduces the cost of holding money,** Consequently, people will have inducement to hold larger cash balances. In short, **the demand for money and the cost of holding cash balances are inversely related.**

Given the above stated framework, **Friedman** defines the demand for money function as follows :

$$M = f(P, Y, \frac{dp}{dt}, r_b, r_e, w, u) \dots \dots \dots (13)$$

where

M = nominal stock of money

P = price level

Y = 'permanent' income

1. $\frac{dp}{p} =$ rate of return in the form of appreciation and depreciation in money

$\frac{dP}{dt}$ value per rupee of real asset

rb = yield on bonds

re = yield on equity

w = ratio of non-human to human wealth

u = taste and preferences of wealth earners

Based on the specification of the demand function, Friedman argues that the factors affecting demand for cash balances can be classified into three categories :

- 1) The level of real income and wealth held in various kinds of assets.
- 2) The opportunity cost of holding cash balances.
- 3) The tastes and preferences of wealth holders.

On the basis of this formulation of demand for money, he concluded that demand for money being stable, it is the change in the supply of money that affects the economic activity in the society.

Friedman's application to monetary theory of the basic principle of capital theory (income is the yield of capital, and capital the present value of income) is perhaps the most important development in monetary theory since Keynesian General Theory. Its theoretical significance lies in the conceptual integration of wealth and income as influences on economic behaviour. Perhaps the most important implication of Friedman's analysis relates to the nature of the concept of 'income' relevant to monetary analysis. As stated earlier, income in his analysis corresponds to the notion of expected yield on wealth rather than as per the conventions of national income accounting.

Critical Analysis of Friedman's Theory

A major criticism of Friedman's empirical work is that the results he has got depend upon the manner in which he has defined money. His definition of money is too broad.

Although Friedman has emphasised the relationship between monetary stocks and aggregate wealth, still he has not found interest rates empirically significant as a determinant of the demand for money. Friedman's analysis reveals that the relationship between the demand for money and interest rates is weak. This weak relationship between the demand for money and interest rates results from the broad definition of money adopted by Friedman.

Check Your Progress C

1) What is Keynesian Theory of Money and Prices ?

.....

2) Give the restatement of quantity theory of money by Friedman.

.....

3) Explain the determinants of the demand for money according to Friedman.

.....

- 4) Which of the following statements are True and which are False.
- i) According to Keynes money is neutral in the economy.
 - ii) Keynes has denied any direct causal relationship between increases in the quantity of money and the rise in the level of prices.
 - iii) Revival of quantity theory has been mainly because of the efforts of Keynes.
 - iv) According to Friedman, the supply of money being stable, it is the demand for money that influences economic activity.

3.5 LET US SUM UP

Frequent occurrence of wide fluctuations in the general price level has attracted special attention of the economists. Though causes for fluctuations in the price level are many, according to the quantity theorists a change in the supply of money is the main cause for changes in the level of prices.

The quantity theory of money has been stated as the equation of exchange in its various forms. Its two most well known forms of the quantity equation are: i) the Fisher's version or the cash transactions equation, written as $MV = PT$, and ii) the cash balances equation of exchange, written as $P = \frac{M}{K}$ or $M = KP$ or

$M = \frac{M}{K}PT$

$M = KPT$, is associated with the names of Alfred Marshall, A.C. Pigou and D.H. Robertson respectively.

Fisher's cash transactions approach relates changes in the price level (P) to changes in the quantity of money (M), its velocity of circulation (V), and the volume of transactions (T). By assuming V and T as constant over time, he established a direct and proportionate relationship between the quantity of money and the price level. Criticism of Fisher's approach mostly emanates from the assumptions underlying the approach.

While Fisher's version of the quantity theory stresses the supply side of money, the cash balances approach emphasises the demand side of money. The latter approach hypothesises that for convenience a certain portion of income is kept by individual in the form of cash or liquidity. The cash balances approach, besides stressing the importance of liquidity which is significant in the determination of equilibrium income and employment, also focussed on the limitations of the monetary policy in controlling fluctuations in the economy.

Keynes while criticising the classical quantity theory of money has denied any direct and causal relationship between increases in the quantity of money and the rise in the price level so long as there are some unemployed resources in the economy. The relationship is rather indirect and remote, because a whole complex of relationships is set in motion through changes in the rate of interest.

Milton Friedman restated the quantity theory which is a theory of the demand for money, and not of output, money income or prices. In formulating the demand for money as a form of capital, Friedman's approach differs from the Keynesian theory. He starts with the broad concept of wealth as comprising all sources of income, including human beings. Friedman relates demand for money to the total wealth and expected future streams of money income obtainable by holding wealth in alternative forms. Friedman arrives at a demand function for money which depends on the price level, bond and equity yields, the rate of change of the price level, income, the rate of non-human to human wealth and a taste variable.

3.6 KEY WORDS

Demand deposits: A bank deposit that can be withdrawn without notice.

Hoarding: Withdrawing money from active circulation by an individual or group, by accumulating it rather than spending it

Human Wealth: The skill and abilities possessed by individuals of a society by which it generates income.

Marginal Efficiency of Capital: That rate of interest which reduces the net present value of a project to zero.

Monetary Policy: That part of economic policy that regulates the level of money or liquidity in the economy in order to achieve a set of economic goals like controlling inflation, correcting balance of payments, disequilibrium, etc.

Propensity to Consume: The proportion of a small increase in income which will be devoted to increased consumption expenditure.

Real Income: Income measured in terms of the real goods and services it can buy.

3.7 ANSWERS TO CHECK YOUR PROGRESS

A 3 i) False ii) True iii) False iv) True v) False vi) True

B 3 i) True ii) True iii) False iv) True v) True

C 4 i) True ii) True iii) False iv) False

3.8 TERMINAL QUESTIONS

- 1) Explain the Fisher's equation of exchange. How is the cash balances equation an improvement over Fisher's equation?
- 2) Discuss Keynes' Theory of Money and Prices. Is it the correct explanation of changes in price level?
- 3) What is quantity theory of money? Explain its significance in the context of understanding the factors determining the value of money?
- 4) Examine how Milton Friedman restated the traditional quantity theory of money.
- 5) Write short notes on the following?
 - i) Cambridge Equation of Exchange.
 - ii) Superiority of Keynes' analysis of Money and Prices over the classical analysis.
 - iii) Basic difference between the Fisher's and Friedman's formulation of quantity theory of money.

Note: These questions will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the university for assessment. These are for your practice only.