

UNIT II

The Keynesian Theory of Money and Prices (Assumptions, Superiority and Criticisms) | Economics

Keynes does not agree with the older quantity theorists that there is a direct and proportional relationship between quantity of money and prices. According to him, the effect of a change in the quantity of money on prices is indirect and non-proportional.

Keynes complains “that economics has been divided into two compartments with no doors or windows between the theory of value and the theory of money and prices.” This dichotomy between the relative price level (as determined by demand and supply of goods) and the absolute price level (as determined by demand and supply of money) arises from the failure of the classical monetary economists to integrate value theory with monetary theory. Consequently, changes in the money supply affect only the absolute price level but exercise no influence on the relative price level.

Further, Keynes criticises the classical theory of static equilibrium in which money is regarded as neutral and does not influence the economy’s real equilibrium relating to relative prices. According to him, the problems of the real world are related to the theory of shifting equilibrium whereas money enters as a “link between the present and future”.

Keynes’s Reformulated Quantity Theory of Money:

The Keynesian reformulated quantity theory of money is based on the following:

Assumptions:

1. All factors of production are in perfectly elastic supply so long as there is any unemployment.
2. All unemployed factors are homogeneous, perfectly divisible and interchangeable.
3. There are constant returns to scale so that prices do not rise or fall as output increases.
4. Effective demand and quantity of money change in the same proportion so long as there are any unemployed resources.

Given these assumptions, the Keynesian chain of causation between changes in the quantity of money and in prices is an indirect one through the rate of interest. So when the quantity of money is increased, its first impact is on the rate of interest which tends to fall. Given the marginal efficiency of capita], a fall in the rate of interest will increase the volume of investment.

The increased investment will raise effective demand through the multiplier effect thereby increasing income, output and employment. Since the supply curve of factors of production is perfectly elastic in a situation of unemployment, wage and non-wage factors are available at constant rate of remuneration. There being constant returns to scale, prices do not rise with the increase in output so long as there is any unemployment.

Under the circumstances, output and employment will increase in the same proportion as effective demand, and the effective demand will increase in the same proportion as the quantity of money. But “once full employment is reached, output ceases to respond at all to changes in the supply of money and so in effective demand. The elasticity of supply of output in response to changes in the supply, which was infinite as long as there was unemployment falls to zero. The entire effect of changes in the supply of money is exerted on prices, which rise in exact proportion with the increase in effective demand.”

Thus so long as there is unemployment, output will change in the same proportion as the quantity of money, and there will be no change in prices; and when there is full employment, prices will change in the same proportion as the quantity of money. Therefore, the reformulated quantity theory of money stresses the point that with increase in the quantity of money prices rise only when the level of full employment is reached, and not before this.

This reformulated quantity theory of money is illustrated in Figure 67.1 (A) and (B) where OTC is the output curve relating to the quantity of money and PRC is the price curve relating to the quantity of money. Panel A of the figure shows that as the quantity of money increases from O to M, the level of output also rises along the OT portion of the OTC curve.

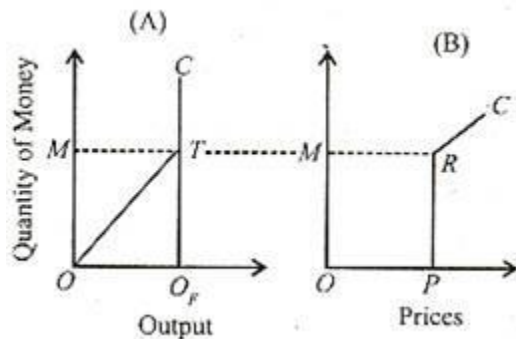


Fig. 67.1

As the quantity of money reaches OM level, full employment output OQ_F is being produced. But after point T the output curve becomes vertical because any further increase in the quantity of money cannot raise output beyond the full employment level OQ_F .

Panel B of the figure shows the relationship between quantity of money and prices. So long as there is unemployment, prices remain constant whatever the increase in the quantity of money. Prices start rising only after the full employment level is reached.

In the figure, the price level OP remains constant at the OM quantity of money corresponding to the full employment level of output OQ_1 . But an increase in the quantity of money above OM raises prices in the same proportion as the quantity of money. This is shown by the RC portion of the price curve PRC .

Keynes himself pointed out that the real world is so complicated that the simplifying assumptions, upon which the reformulated quantity theory of money is based, will not hold. According to him, the following possible complications would qualify the statement that so long as there is unemployment, 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.”

- (1) “Effective demand will not change in exact proportion to the quantity of money.
- (2) Since resources are homogenous, there will be diminishing, and not constant returns as employment gradually increases.
- (3) Since resources are not interchangeable, some commodities will reach a condition of inelastic supply while there are still unemployed resources available for the production of other commodities.
- (4) The wage-unit will tend to rise, before full employment has been reached.
- (5) The remunerations of factors entering into marginal cost will not all change in the same proportion.”

Taking into account these complications, it is clear that the reformulated quantity theory of money does not hold. An increase in effective demand will not change in exact proportion to the quantity of money, but it will partly spend itself in increasing output and partly in increasing the price level. So long as there are unemployed resources, the general price level will not rise much as output increases. But a sudden large increase in aggregate demand will encounter bottlenecks when resources are still unemployed.

It may be that the supply of some factors becomes inelastic or others may be in short supply and are not interchangeable. This may lead to increase in marginal cost and price. Price would accordingly rise above average unit cost and profits would increase rapidly which, in turn, tend to raise money wages owing to trade union pressures. Diminishing returns may also set in. As full employment is reached, the elasticity of supply of output falls to zero and prices rise in proportion to the increase in the quantity of money.

The complicated model of the Keynesian theory of money and prices is shown diagrammatically in Figure 67.2 in terms of aggregate supply (S) and aggregate demand (D) curves. The price level is measured on the vertical axis and output on the horizontal axis.

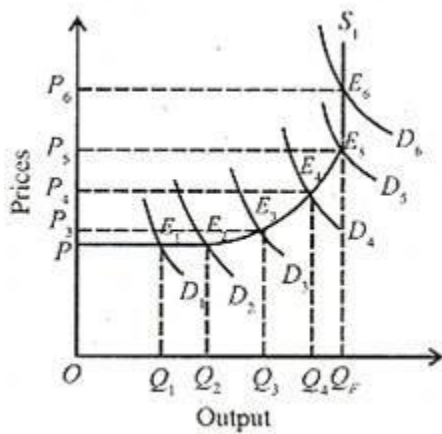


Fig. 67.2

According to Keynes, an increase in the quantity of money increases aggregate money demand on investment as a result of the fall in the rate of interest. This increases output and employment in the beginning but not the price level. In the figure, the increase in the aggregate money demand from D_1 to D_2 raises output from OQ_1 to OQ_2 but the price level remains constant at OP . As aggregate money demand increases further from D_2 to D_3 output increases from OQ_2 to OQ_3 and the price level also rises to OP_3 .

This is because costs rise as bottlenecks develop through the immobility of resources. Diminishing returns set in and less efficient labour and capital are employed. Output increases at a slower rate than a given increase in aggregate money demand, and this leads to higher prices. As full employment is approached, bottlenecks increase. Further-more, rising prices lead to increased demand, especially for stocks. Thus prices rise at an increasing rate. This is shown over the range in the figure.

But when the economy reaches the full employment level of output, any further increase in aggregate money demand brings about a proportionate increase in the price level but output

remains unchanged at that level. This is shown in the figure when the demand curve D^5 shifts upward to D_6 and the price level increases from OP_5 to OP_6 while the level of output remains constant at OQ_F .

Superiority of the Keynesian Theory over the Traditional Quantity Theory of Money:

The Keynesian theory of money and prices is superior to the traditional quantity theory of money for the following reasons.

Keynes's reformulated quantity theory of money is superior to the traditional approach in that he discards the old view that the relationship between the quantity of money and prices is direct and proportional. Instead, he establishes an indirect and non-proportional relationship between quantity of money and prices.

In establishing such a relationship, Keynes brought about a transition from a pure monetary theory of prices to a monetary theory of output and employment. In so doing, he integrates monetary theory with value theory. He integrates monetary theory with value theory and also with the theory of output and employment through the rate of interest.

In fact, the integration between monetary theory and value theory is done through the theory of output in which the rate of interest plays the crucial role. When the quantity of money increases the rate of interest falls which increases the volume of investment and aggregate demand thereby raising output and employment. In this way, monetary theory is integrated with the theory of output and employment.

As output and employment increase they further raise the demand for factors of production. Consequently, certain bottlenecks appear which raise the marginal cost including money wage rates. Thus prices start rising.

Monetary theory is integrated with value theory in this way. The Keynesian theory is, therefore, superior to the traditional quantity theory of money because it does not keep the real and monetary sectors of the economy into two separate compartments with 'no doors or windows between the theory of value and the theory of money and prices.'

Again, the traditional quantity theory is based on the unrealistic assumption of full employment of resources. Under this assumption, a given increase in the quantity of money always leads to a proportionate increase in the price level. Keynes, on the other hand, believes that full employment is an exception.

Therefore, so long as there is unemployment, output and employment will change in the same proportion as the quantity of money, but there will be no change in prices; and when there is full employment, prices will change in the same proportion as the quantity of money. Thus the Keynesian analysis is superior to the traditional analysis because it studies the relationship between the quantity of money and prices both under unemployment and full employment situations.

Further, the Keynesian theory is superior to the traditional quantity theory of money in that it emphasises important policy implications. The traditional theory believes that every increase in the quantity of money leads to inflation.

Keynes, on the other hand, establishes that so long as there is unemployment, the rise in prices is gradual and there is no danger of inflation. It is only when the economy reaches the level of full employment that the rise in prices is inflationary with every increase in the quantity of money. Thus “this approach has the virtue of emphasising that the objectives of full employment and price stability may be inherently irreconcilable.”

Criticisms of Keynes Theory of Money and Prices:

Keynes’ views on money and prices have been criticised by the monetarists on the following grounds.

1. Direct Relation:

Keynes mistakenly took prices as fixed so that the effect of money appears in his analysis in terms of quantity of goods traded rather than their average prices. That is why Keynes adopted an indirect mechanism through bond prices, interest rates and investment of the effects of monetary changes on economic activity. But the actual effects of monetary changes are direct rather than indirect.

2. Stable Demand for Money:

Keynes assumed that monetary changes were largely absorbed by changes in the demand for money. But Friedman has shown on the basis of his empirical studies that the demand for money is highly stable.

3. Nature of Money:

Keynes failed to understand the true nature of money. He believed that money could be exchanged for bonds only. In fact, money can be exchanged for many different types of assets like bonds, securities, physical assets, human wealth, etc.

4. Effect of Money:

Since Keynes wrote for a depression period, this led him to conclude that money had little effect on income. According to Friedman, it was the contraction of money that precipitated the depression. It was, therefore, wrong on the part of Keynes to argue that money had little effect on income. Money does affect national income.

Source: <https://www.yourarticlelibrary.com/>

Friedman's Theory of the Demand for Money (Theory and Criticisms)

Friedman's Theory:

In his reformulation of the quantity theory, Friedman asserts that "the quantity theory is in the first instance a theory of the demand for money. It is not a theory of output, or of money income, or of the price level." The demand for money on the part of ultimate wealth holders is formally identical with that of the demand for a consumption service. He regards the amount of real cash balances (M/P) as a commodity which is demanded because it yields services to the person who holds it. Thus money is an asset or capital good. Hence the demand for money forms part of capital or wealth theory.

For ultimate wealth holders, the demand for money, in real terms, may be expected to be a function primarily of the following variables:

1. Total Wealth:

The total wealth is the analogue of the budget constraint. It is the total that must be divided among various forms of assets. In practice, estimates of total wealth are seldom available. Instead, income may serve as an index of wealth. Thus, according to Friedman, income is a surrogate of wealth.

2. The Division of Wealth between Human and Non-Human Forms:

The major source of wealth is the productive capacity of human beings which is human wealth. But the conversion of human wealth into non-human wealth or the reverse is subject to institutional constraints. This can be done by using current earnings to purchase non-human wealth or by using non-human wealth to finance the acquisition of skills. Thus the fraction of total wealth in the form of non-human wealth is an additional important variable. Friedman calls the ratio of non-human to human wealth or the ratio of wealth to income as w .

3. The Expected Rates of Return on Money and Other Assets:

These rates of return are the counterparts of the prices of a commodity and its substitutes and complements in the theory of consumer demand. The nominal rate of return may be zero as it generally is on currency, or negative as it sometimes is on demand deposits, subject to net service charges, or positive as it is on demand deposits on which interest is paid, and generally on time deposits. The nominal rate of return on other assets consists of two parts: first, any currently paid yield or cost, such as interest on bonds, dividends on equities, and costs of storage on physical assets, and second, changes in the prices of these assets which become especially important under conditions of inflation or deflation.

4. Other Variables:

Variables other than income may affect the utility attached to the services of money which determine liquidity proper. Besides liquidity, variables are the tastes and preferences of wealth holders. Another variable is trading in existing capital goods by ultimate wealth holders. These variables also determine the demand function for money along-with other forms of wealth. Such variables are noted as u by Friedman.

Broadly, total wealth includes all sources of income or consumable services. It is capitalised income. By income, Friedman means “permanent income” which is the average expected yield on wealth during its life time.

Wealth can be held in five different forms: money, bonds, equities, physical goods, and human capital. Each form of wealth has a unique characteristic of its own and a different yield.

1. Money is taken in the broadest sense to include currency, demand deposits and time deposits which yield interest on deposits. Thus money is luxury good. It also yields real return in the form of convenience, security, etc. to the holder which is measured in terms of the general price level (P).

2. Bonds are defined as claim to a time stream of payments that are fixed in nominal units.

3. Equities are defined as a claim to a time stream of payments that are fixed in real units.

4. Physical goods or non-human goods are inventories of producer and consumer durable.

5. Human capital is the productive capacity of human beings. Thus each form of wealth has a unique characteristic of its own and a different yield either explicitly in the form of interest,

dividends, labour income, etc., or implicitly in the form of services of money measured in terms of P , and inventories. The present discounted value of these expected income flows from these five forms of wealth constitutes the current value of wealth which can be expressed as:

$$W = y/r$$

Where W is the current value of total wealth, Y is the total flow of expected income from the five forms of wealth, and r is the interest rate. This equation shows that wealth is capitalised income. Friedman in his latest empirical study *Monetary Trends in the United States and the United Kingdom* (1982) gives the following demand function for money for an individual wealth holder with slightly different notations from his original study of 1956 as:

$$M/P = f(y, w; R_m, R_b, R_e, g_p, u)$$

Where M is the total stock of money demanded; P is the price level; y is the real income; w is the fraction of wealth in non-human form; R_m is the expected nominal rate of return on money; R_b is the expected rate of return on bonds, including expected changes in their prices; R_e is the expected nominal rate of return on equities, including expected changes in their prices; $g_p = (1/P)(dP/dt)$ is the expected rate of change of prices of goods and hence the expected nominal rate of return on physical assets; and u stands for variables other than income that may affect the utility attached to the services of money.

The demand function for business is roughly similar, although the division of total wealth and human wealth is not very useful since a firm can buy and sell in the market place and hire its human wealth at will. But the other factors are important.

The aggregate demand function for money is the summation of individual demand functions with M and y referring to per capita money holdings and per capita real income respectively, and w to the fraction of aggregate wealth in nonhuman form.

The demand function for money leads to the conclusion that a rise in expected yields on different assets (R_b , R_e and g_p) reduces the amount of money demanded by a wealth holder, and that an increase in wealth raises the demand for money. The income to which cash balances (M/P) are adjusted is the expected long term level of income rather than current income being received.

Empirical evidence suggests that the income elasticity of demand for money is greater than unity which means that income velocity is falling over the long run. This means that the long run demand for money function is stable and is relatively interest inelastic, as shown in fig. 68.1. where M_D is the demand for money curve. If there is change in the interest rate, the long-run demand for money is negligible.

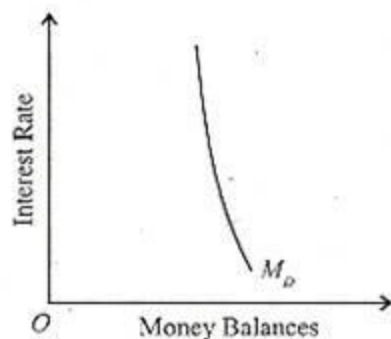


Fig. 68. 1

In Friedman's restatement of the quantity theory of money, the supply of money is independent of the demand for money. The supply of money is unstable due to the actions of monetary authorities. On the other hand, the demand for money is stable. It means that money which people want to hold in cash or bank deposits is related in a fixed way to their permanent income.

If the central bank increases the supply of money by purchasing securities, people who sell securities will find their holdings of money have increased in relation to their permanent income. They will, therefore, spend their excess holdings of money partly on assets and partly on consumer goods and services.

This spending will reduce their money balances and at the same time raise the nominal income. On the contrary, a reduction in the money supply by selling securities on the part of the central bank will reduce the holdings of money of the buyers of securities in relation to their permanent income.

They will, therefore, raise their money holdings partly by selling their assets and partly by reducing their consumption expenditure on goods and services. This will tend to reduce nominal income. Thus, on both counts, the demand for money remains stable. According to Friedman, a change in the supply of money causes a proportionate change in the price level or income or in both. Given the demand for money, it is possible to predict the effects of changes in the supply of money on total expenditure and income.

If the economy is operating at less than full employment level, an increase in the supply of money will raise output and employment with a rise in total expenditure. But this is only possible in the short run. Friedman's quantity theory of money is explained in terms of Figure 68.2. Where income (Y) is measured on the vertical axis and the demand for the supply of money are measured on the horizontal axis. M_D is the demand for money curve which varies with income. M_S is the money supply curve which is perfectly inelastic to changes in income. The two curves

intersect at E and determine the equilibrium income OY. If the money supply rises, the MS curve shifts to the right to M_1S_1 . As a result, the money supply is greater than the demand for money which raises total expenditure until new equilibrium is established at E_1 between M_D and M_1S_1 , curves. The income rises to OY_1 .

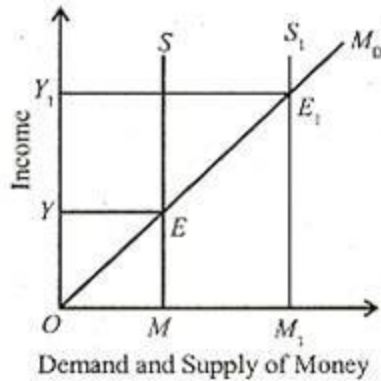


Fig. 68.2

Thus Friedman presents the quantity theory as the theory of the demand for money and the demand for money is assumed to depend on asset prices or relative returns and wealth or income. He shows how a theory of the stable demand for money becomes a theory of prices and output. A discrepancy between the nominal quantity of money demanded and the nominal quantity of money supplied will be evident primarily in attempted spending. As the demand for money changes in response to changes in its determinants, it follows that substantial changes in prices or nominal income are almost invariably the result of changes in the nominal supply of money.

Its Criticisms:

Friedman's reformulation of the quantity theory of money has evoked much controversy and has led to empirical verification on the part of the Keynesians and the Monetarists. Some of the criticisms levelled against the theory are discussed as under.

1. Very Broad Definition of Money:

Friedman has been criticised for using the broad definition of money which not only includes currency and demand deposits (M_1) but also time deposits with commercial banks (M_2). This broad definition leads to the obvious conclusion that the interest elasticity of the demand for money is negligible. If the rate of interest increases on time deposits, the demand for them (M_2) rises. But the demand for currency and demand deposits (M_1) falls.

So the overall effect of the rate of interest will be negligible on the demand for money. But Friedman's analysis is weak in that he does not make a choice between long-term and short-term interest rates. In fact, if demand deposits (M_1) are used a short-term rate is preferable, while a

long-term rate is better with time deposits (M_2). Such an interest rate structure is bound to influence the demand for money.

2. Money not a Luxury Good:

Friedman regards money as a luxury good because of the inclusion of time deposits in money. This is based on his finding that there is higher trend rate of the money supply than income in the United States. But no such 'luxury effect' has been found in the case of England.

3. More Importance to Wealth Variables:

In Friedman's demand for money function, wealth variables are preferable to income and the operation of wealth and income variables simultaneously does not seem to be justified. As pointed out by Johnson, income is the return on wealth, and wealth is the present value of income. The presence of the rate of interest and one of these variables in the demand for money function would appear to make the other superfluous.

4. Money Supply not Exogenous:

Friedman takes the supply of money to be unstable. The supply of money is varied by the monetary authorities in an exogenous manner in Friedman's system. But the fact is that in the United States the money supply consists of bank deposits created by changes in bank lending. Bank lending, in turn, is based upon bank reserves which expand and contract with (a) deposits and withdrawals of currency by non-bank financial intermediaries; (b) borrowings by commercial banks from the Federal Reserve System; (c) inflows and outflows of money from and to abroad; and (d) purchase and sale of securities by the Federal Reserve System. The first three items definitely impart an endogenous element to the money supply. Thus the money supply is not exclusively exogenous, as assumed by Friedman. It is mostly endogenous.

5. Ignores the Effect of Other Variables on Money Supply:

Friedman also ignores the effect of prices, output or interest rates on the money supply. But there is considerable empirical evidence that the money supply can be expressed as a function of the above variables.

6. Does not consider Time Factor:

Friedman does not tell about the timing and speed of adjustment or the length of time to which his theory applies.

7. No Positive Correlation between Money Supply and Money GNP:

Money supply and money GNP have been found to be positively correlated in Friedman's findings. But, according to Kaldor, in Britain the best correlation is to be found between the

quarterly variations in the amount of cash held in the form of notes and coins by the public and corresponding variations in personal consumption at market prices, and not between money supply and the GNP.

8. Conclusion:

Despite these criticisms, “Friedman’s application to monetary theory of the basic principle of capital theory—that is the yield on capital, and capital the present value of income—is probably the most important development in monetary theory since Keynes’s General Theory. Its theoretical significance lies in the conceptual integration of wealth and income as influences on behaviour.”

Friedman Vs Keynes:

Friedman’s demand for money function differs from that of Keynes’s in many ways which are discussed as under.

First, Friedman uses a broader definition of money than that of Keynes in order to explain his demand for money function. He treats money as an asset or capital good capable of serving as a temporary abode of purchasing power. It is held for the stream of income or consumable services which it renders. On the other hand, the Keynesian definition of money consists of demand deposits and non-interest bearing debt of the government.

Second, Friedman postulates a demand for money function quite different from that of Keynes. The demand for money on the part of wealth holders is a function of many variables. These are R_m , the yield on money; R_b , the yield on bonds; R_e , the yield on securities; g_p , the yield on physical assets; and u referring to other variables. In the Keynesian theory, the demand for money as an asset is confined to just bonds where interest rates are the relevant cost of holding money.

Third, there is also the difference between the monetary mechanisms of Keynes and Friedman as to how changes in the quantity of money affect economic activity. According to Keynes, monetary changes affect economic activity indirectly through bond prices and interest rates.

The monetary authorities increase the money supply by purchasing bonds which raises their prices and reduces the yield on them. Lower yield on bonds induces people to put their money elsewhere, such as investment in new productive capital that will increase output and income. On the other hand, in Friedman’s theory monetary disturbances will directly affect prices and production of all types of goods since people will buy or sell any asset held by them. Friedman

emphasises that the market interest rates play only a small part of the total spectrum of rates that are relevant.

Fourth, there is the difference between the two approaches with regard to the motives for holding money balances. Keynes divides money balances into “active” and “idle” categories. The former consist of transactions and precautionary motives, and the latter consist of the speculative motive for holding money. On the other hand, Friedman makes no such division of money balances.

According to him, money is held for a variety of different purposes which determine the total volume of assets held such as money, physical assets, total wealth, human wealth, and general preferences, tastes and anticipations.

Fifth, in his analysis, Friedman introduces permanent income and nominal income to explain his theory. Permanent income is the amount a wealth holder can consume while maintaining his wealth intact. Nominal income is measured in the prevailing units of currency. It depends on both prices and quantities of goods traded. Keynes, on the other hand, does not make such a distinction.

Source: <https://www.yourarticlelibrary.com/>

Patinkin’s monetary model of quantity theory of money.

In 1956 there appeared a monumental work by Don Patinkin which, inter alia, demonstrated the rigid conditions required for the strict proportionality rule of the quantity theory whilst simultaneously launching a severe attack upon the Cambridge analysis.

Patinkin’s main point of contention was that the advocates of the cash balance approach had failed to understand the true nature of the quantity theory.

Their failure was revealed in the dichotomy which they maintained between the goods market and the money market. Far from integrating the two, as had been claimed, Patinkin held that the neo-classical economists had kept the two rigidly apart.

An increase in the stock of money was assumed to generate an increase in the absolute price level but to exercise no real influence upon the market for commodities. One purpose of Patinkin’s analysis was that only by exerting an influence upon the market for commodities, via the real balance effect, could the strict quantity theory be maintained.

Part of Patinkin's attack revolved round the nature of the demand curve for money, which according to Patinkin, Cambridge School had generally assumed to be a rectangular hyperbola with constant unit elasticity of the demand for money. As a matter of fact, such a demand curve was implicit in the argument that a doubling of the money stock would induce a doubling of the price level.

Patinkin used the 'real balance effect' to demonstrate that the demand curve for money could not be of the shape of a rectangular hyperbola (i.e., the elasticity of demand for money cannot be assumed to be unity except in a stationary state), and moreover, such a demand curve would contradict the strict quantity theory assertion which the Cambridge quantity theorists were trying to establish. Patinkin's main point is that cash balance approach ignored the real balance effect and assumed the absence of money illusion under the assumption of 'homogeneity postulate' and, therefore, failed to bring about a correct relation between the theory of money and the theory of value.

The homogeneity postulate implies that the demand functions in the real sectors are assumed to be insensitive to the changes in the absolute level of money prices (i.e., with changes in the quantity of money there will be equi-proportional changes in all money prices), which indicates absence of money illusion and the real balance effect. But this is valid only in a pure barter economy, where there are no money holdings and as such the concept of absolute price level has no or little meaning. The money economy in reality, cannot be without money illusion.

Assumptions:

Patinkin has been able to show the validity and the rehabilitation of the classical quantity theory of money through Keynesian tools with the help of and on the basis of certain basic assumptions: for example, it is assumed that an initial equilibrium exists in the economy, that the system is stable, that there are no destabilizing expectations and finally there are no other factors except those which are specially assumed during the analysis. Again, consumption functions remains stable [the ratio of the flow of consumption expenditure on goods to the stock of money (income velocity) must also be stable.

Further, it is assumed that there are no distribution effects, that is, the level and composition of aggregate expenditures are not affected by the way in which the newly injected money is distributed amongst initial recipients and the reaction of creditors and debtors to a changing price level offset each other. It is also assumed that there is no money illusion. Thus, Patinkin has

discussed the validity of the quantity theory only under conditions of full employment, as according to him Keynes questioned its validity even under conditions of full employment.

In Patinkin's approach we reach the same conclusion as in the old quantity theory of money but we employ modern analytical framework of income-expenditure approach or what is called the Keynesian approach. In other words, Patinkin has rehabilitated the truth contained in the old quantity theory of money with modern Keynesian tools.

Let us be clear that Patinkin first criticised the so called classical dichotomy of money and then rehabilitated it through a different route. The classical dichotomy which treated relative prices as being determined by real demands (tastes) and real supplies (production conditions), and the money price level as depending on the quantity of money in relation to the demand for money.

In such classical dichotomy there is a real theory of relative prices and a monetary theory of the level of prices, and these are treated as being separate problems, so that in analysing what determines relative prices one does not have to introduce money; whereas in analysing what determines the level of money prices, one does not have to introduce the theory of relative prices. The problem here is (before Patinkin has been) how these two theories can be reconciled—once this has been done, the other problem is— whether the reconciliation permits one to arrive at the classical proposition that an increase in the quantity of money will increase all prices in the same proportion, so that relative prices are not dependent on the quantity of money.

This particular property is described technically as neutrality of money. If money is neutral, an increase in the quantity of money will merely raise the level of money prices without changing relative prices and the rate of interest (which is a particular relative price). In Pigou's terminology, money will be simply a 'veil' covering the underlying operations of the real system.

According to Patinkin this contradiction could be removed and classical theory reconstituted by making the demand and supply functions depend on real cash balances as well as relative prices. While this would eliminate the dichotomy, it would preserve the basic features of the classical monetary theory and particularly the invariance of the real equilibrium of the economy (relative prices and the rate of interest) with respect to changes in the quantity of money.

The real balance effect has been one of the most important innovations in thought concerning the quantity theory of money. This is also called 'Pigou Effect', because it was developed by him but Don Patinkin criticized the narrow sense in which the term real balance effect was used by Pigou and he used it in a wider sense.

Suppose a person holds certain money balances and price level falls, the result will be an increase in the real value of these balances. The person will have a larger stock of money than previously, in real terms, though not in nominal units. Similarly, if the private sector of the economy, taken as a whole, has money balances larger than its net debts, then a fall in the price level will lead to increased spending and the quantity theory of money to that extent stands modified, the important variable to watch is not M , but M/P , that is, real money balances. The real balance effect and the demand for money substitutes go to constitute important modifications of the quantity theory of money.

Thus, we find that the solution to this problem, as Patinkin develops it, is to introduce the stock of real balances held by individuals as an influence on their demand for goods. The real balance effect, therefore, is an essential element of the mechanism which works to produce equilibrium in the money market. Suppose, for example, that for some reason prices fall below their equilibrium level—this will increase the real wealth of the cash-holders—lead them to spend more money—and that in turn will drive prices back towards equilibrium.

Thus, the real balance effect is the force behind the working of the quantity theory. Similarly if there is a chance to increase in the price level, this will reduce people's real balances and therefore lead them to rebuild their balances by spending less, this in turn will force prices back down, so that the presence of real balances as an influence on demands ensures the stability of the price level. Thus, the introduction of the real balance effect disposed of classical dichotomy, that is, it makes it impossible to talk about relative prices without introducing money; but it nevertheless preserve the classical proposition that the real equilibrium of the system will not be affected by the amount of money, all that will be affected will be the level of prices.

“Once the real and monetary data of an economy with outside money are specified”, says Patinkin, “the equilibrium value of relative prices, the rate of interest, and the absolute price level are simultaneously determined by all the markets of the economy.”

According to Patinkin, “The dynamic grouping of the absolute price level towards its equilibrium value will—through the real balance effect—react back on the commodity markets and hence the relative prices.” Hence, the integration of monetary and value theory through the explicit introduction of real balances as a determinant of the behaviour and the reconstitution of classical monetary theory, is the main theme and contribution of Patinkin's monumentally scholarly work—Money, Interest and Prices.

Keynes criticized the old quantity theory of money on two grounds: that velocity of circulation is not a constant of economic behaviour and that the theory was valid only under highly rigid assumptions. Don Patinkin agrees in his approach to the problem that the Keynesian analysis and economic variables provide more dependable interrelationships than does the velocity of circulation. In other words, a breakdown of expenditure into the sum of C and I is more useful analytical device than the breakdown into the product of the stock of money and the velocity of circulation.

Patinkin assumes full employment and deals with the above-mentioned criticism of Keynes that even under rigid assumptions the quantity theory is not valid unless certain other conditions are also fulfilled. According to Patinkin, these other conditions mentioned by Keynes (besides, full employment) are that the propensity to hoard [that part of the demand for money which depends upon the rate of interest— $M_2(r)$] should always be zero in equilibrium and that the effective demand (AD) should increase in the same proportion as the quantity of money—this will depend on the shapes of LP, MEC, CF functions.

Don Patinkin has shown that irrespective of the values of the marginal propensities to consume and invest and the existence of a non-zero propensity to hoard; an increase in the quantity of money must ultimately bring about a proportional increase in prices (leaving the interest rate unaffected) once the real balance effects are brought into the picture. Thus, Keynes' argument that the above conditions must be fulfilled has been proved incorrect by Patinkin.

Further, with the help of real balance effect Patinkin shows that the quantity theory will hold good even in the extreme Keynesian case where the initial increase in the quantity of money directly affects only the demand for bonds (M_2) and finally Patinkin has shown that a change in the quantity of money does not ultimately affect the rate of interest—even though a change in the rate of interest does affect the amount of money demanded.

Real Balance Effect:

The term 'real balance effect' was coined by Patinkin to denote the influence of changes in the real stock of money on consumption expenditure, that is, a change in consumption expenditure as a result of changes in the real value of the stock of money in circulation. This influence was taken into consideration by Pigou also under what we call 'Pigou Effect', which Patinkin described as a bad terminological choice. Pigou effect was used in a narrow sense to denote the influence on consumption only, but the term real balance effect, has been made more meaningful and useful by including in it all likely influences of changes in the stock of real balances.

In other words it considers the behavioural effects of changes in the real stock of money. The term has been used by Patinkin in a wider sense so as to include the net wealth, effect, portfolio effect, Cambridge effect, as well as any other effect one might think of. Patinkin used the term real balance effect to include all the aspects of real balances in the first edition of his book. It is in the second edition of his book that Patinkin emphasises the net wealth aspect of real balances though he does not completely exclude other aspects as detailed above.

Unless the term is used in a wider sense so as to include all the aspects of real balances, its use is likely to be misleading and may fail to describe a generalized theory of people's reactions to changes in the stock of real balances. The use of the term in the wider sense as enunciated above also helps us to resolve the paradox—that income is the main determinant of expenditure on the micro level and wealth is a significant determinant of income on the macro level.

The analysis of the real balance effect listed three motives why people would alter their spending and, therefore, demand for money in response to a change in the aggregate stock of money. First, the demand for money is a function of the level of wealth. The wealthier the people, the more the expenditure on goods; second, they hold money for security as a part of their diversified portfolios; third, just as the demand for every superior good increases with a rise in income, so does the demand for money. Individuals usually desire that their cash balances should bear a given relation to their yearly income.

Therefore, other things being equal—wealth, portfolio structure and income determine the demand for money as also the spending decisions. Hence, corresponding to these three motives of the demand for money, there are three different aspects of the real balance effect—each of which may operate either directly on the demand for commodities or may operate indirectly by stimulating the demand for financial assets (securities etc.), raising their prices, lowering the interest rate, stimulating investments, increasing incomes, resulting in a rise in demand for commodities.

Net Wealth Effect:

Net wealth effect is the first and important aspect of the real balance effect. According to this interpretation, an increase in real balances produces an increase in spending because it changes one's net wealth holding, which by definition includes currency, net claims of the private domestic sector on foreigners and net claims of the private sector on the government sector. Hence, consumption is a function of net wealth, rising or falling as real balances increase or decrease.

An increase in real balances results in individuals increasing their spending on goods because they are wealthier, or they have come to hold too much money in their portfolios, or because their balances have become too large in relation to their incomes.

Clearly, the direct net wealth aspect has become identified primarily with the term real balance effect. Besides, there is an indirect process also through which changes in real balances affect expenditures—an increase in real balances stimulates initially the demand for financial assets (securities), which in turn, reduces interest rates making investments more attractive, stimulating incomes and expenditures. Some writers simply emphasize the direct net wealth aspect.

They include, G. Ackley, Fellner, Mishan, Collery. These authors primarily associate the term real balance effect with the net wealth aspect, to the exclusion of all others. Other economists point out to the indirect operation of the real balance effect. Harrod and later on Mishan supported the view that there is an indirect effect of real balance phenomenon. Therefore, the real balance effect in its most general sense covers both the direct and indirect methods by which changes in real balances affect consumer spending.

Portfolio Aspect:

James Tobin is the chief exponent of this view, who is supported by Metzler. According to the portfolio aspect of the real balance effect, a decrease in price level causes investor's portfolios to consist of more money than desired in proportion to the portfolio. Accordingly, they spend more and their effort to restore the actual to the desired amount of money changes the price level until equilibrium is restored. In their attempt to remedy the situation, individuals spend their excess supply of money directly on the physical assets or indirectly in the financial market (for securities etc.).

Equilibrium is restored when prices change (rise or fall) to such an extent that real balances once again come to bear the desired relation to the value of the portfolios. A distinguishing feature of the portfolio aspect is that people increase or decrease their expenditures in order to restore their stock of money to the optimum level with respect to their asset portfolio.

Cambridge Aspect:

This is the third aspect of the real balance effect. It differs from others in that it views the demand for money primarily as a function of income. According to Cambridge aspect, an increase in the stock of real balances increases real balances relative to income. If previously one held cash balances equal to 1/10th of the yearly income; then after an increase in real balances one would, for example, hold cash balances equal to 1/5th of the yearly income. Finding

themselves with more than optimal fraction of income in money terms, people begin to spend more.

If they spend for commodities the price level increases in accordance with the direct aspect; if they spend on bonds (securities) the equilibrium will be restored through indirect process or operation. In other words, equilibrium will be restored, when other things being equal, the price level has risen in proportion to the increase in the money supply.

However, let us be clear that spending is influenced by, how wealthy people feel they are their portfolio balance and the relation of cash balances to income. The wealth effect, the portfolio effect and the Cambridge aspect of the real balance effect are all interrelated and it is merely for the sake of convenience that a division amongst the three aspects of the real balance effect is made.

Critical Evaluation:

This is Patinkin's solution to the problem but it has not been accepted. The basic disagreements centre on whether or not it is necessary to retain this real balance effect in the real analysis. Patinkin's model may be considered as an elegant refinement of the traditional quantity theory and its value lies in specifying precisely the necessary conditions for the strict proportionality of the quantity theory to hold and in analysing in detail the mechanism by which the change in the stock of money takes effect—the real balance effect.

Although Patinkin's analysis is said to be the formally incomplete because it fails to provide an explanation of full long run equilibrium, yet the integration of product and monetary markets through the real balance effect represented a significant improvement over earlier treatments. For the first time, the nature of the wealth effect is made explicit. What, however, is not analysed is the manner in which the increase in monetary wealth comes about. A doubling of money balances is simply assumed and the analysis rests entirely on the resultant effects.

The Patinkin effect fails to take into account the long-run equilibrium effect as has been pointed out by Archibald and Lipsey and conceded by Patinkin in the second edition of his work. They show that Patinkin's analysis of the real balance effect is inadequate inasmuch as he confines himself to the impact effect of a change in a price and does not work the analysis through to the long-run equilibrium. The result of the debate is that the real balance effect must be considered not as a necessary part of the general equilibrium theory but as a part of the analysis of monetary stability, in that context it performs the functions of ensuring stability of the price level.

What one needs the real balance effect for is to ensure the stability of the price level; one does not need it to determine the real equilibrium of the system; so long as one confines oneself to equilibrium positions. The equilibrium obtained is no doubt a short-term equilibrium only because further changes will be induced for income recipients in future time periods. Moreover, it is very interesting to point out that if the analysis is extended to an infinite number of periods, general long-run equilibrium is found to be perfectly consistent with – a unit elastic demand curve for money—the real balance effect disappears. Therefore, this again raises a thorny question of whether the quantity theory is a theory of short-run or long-run equilibrium or indeed whether it should be considered a theory of equilibrium at all?

Even otherwise, it has been pointed out that if some kind of monetary effect has got to be present, it need not necessarily be a real balance effect as the presence of real balance effect implies that people do not suffer from money illusion—they hold money for what it will buy.

This assumption yields the classical monetary proposition that a doubling of the money supply will lead to a doubling of prices and no change in real equilibrium. But a recent article by Cliff Lloyd has shown that stability of price level can be attained without assuming simply that there is a definite quantity of money which people want to hold. The mere fact that they want to hold money and that the available quantity is fixed will ensure the stability of price level—but it will not produce the neutrality of the money of the classical theory.

Further, G.L.S. Shackle has criticised Patinkin's analysis. He feels that Keynes analysis took account of money and uncertainties, whereas in Patinkin' analysis the objective is to understand the functioning of money economy under perfect interest and price certainty. He accepts that once the 'Pandora Box' of expectations and interest and price uncertainty is opened on the world of economic analysis, anything may happen and this makes all the difference between two approaches. Patinkin's treatment is a long-term equilibrium of pure choice, while Keynes treatment is of short-term equilibrium of impure choice.

J.G. Gurley and E.S. Shaw have also criticised the static assumptions of Patinkin and have enumerated and elucidated the conditions to show under which money will not be neutral. They bring back into the analysis, the overall liquidity of the monetary and financial structure and differing liquidity characteristics of different assets,' which were excluded by the assumptions made in Patinkin's analysis, in which money is not itself a government debt but is issued by the monetary authority against private debt (inside money as contrasted with the outside money).

They show that money cannot be neutral in a system containing inside and outside money. Outside money is the money which comes from outside the private sector and simply exists. One can think of outside money being gold coins in circulation or paper currency printed by the government. Outside money represents wealth to which there corresponds no debt. Inside money is the money created against private debt. It is typified by the bank deposits created by a private banking system. These writers have shown that if the money supply consists of a combination of inside and outside money, the classical neutrality of money does not hold good as claimed by Patinkin. The main difference between Keynes and Patinkin

approaches is that Keynes assumed the price level given does not assume full employment, whereas Patinkin has tried to establish the validity of the quantity theory by assuming full employment but not the price level. Patinkin discussed the validity of the quantity theory under full employment because Keynes questioned its validity even under conditions of full employment.

Patinkin's Monetary Model and Neutrality of Money:

The mechanism of Patinkin's monetary model can be elaborated as follows:

Suppose there are four markets in the economy—goods, labour, bonds and money. In each of these markets there is a demand function, there is a supply function and a statement of the equilibrium condition, namely, a statement that prices, wages and interest rate are such that the amount demanded in the market equals the amount supplied. By virtue of what we call 'Walras law', we know that if equilibrium exists in any three of these markets, it must also exist in the fourth.

Considering the markets for finished goods Keynes' aggregate demand function would comprise of consumption plus investment plus government demand. Following Keynes, we assume that the real amount demanded of finished goods (E) varies directly with the level of national income (K), and inversely, with the rate of interest (r).

Assume further that E also depends directly on the real value of cash balances held by the community M_0/P (where M_0 is the amount of money in circulation assumed constant, and p is an index of the prices of finished goods). In other words, a decrease in the price level, which increases these real cash balances, is assumed to cause an increase in the aggregate amount of goods demanded and vice versa.

Thus, the real aggregate demand function for goods is shown:

$$E = f(Y, r, M_0/P) \dots\dots (i)$$

Since, there exists full employment, therefore, the supply function of finished goods can be written as:

$$Y = Y_0 \dots \text{(ii)}$$

where, Y_0 is the level of real national product (equal by definition to the level of real national income) corresponding to full employment condition.

The statement of equilibrium in the goods market is then that the goods demanded equal the goods supplied that is:

$$E = Y \dots \text{(iii)}$$

In the labour market let us assume that the demand for labour (N_d) is equal to the supply of labour (N_s) at the real wage rate (W/p) Therefore,

$$N_d = g(W/p) \dots \text{(iv)}$$

$$\text{and } N_s = h(W/p) \dots \text{(v)}$$

$$\text{Therefore, } N_d = N_s \dots \text{(vi)}$$

Thus, the full employment level of real national income Y_0 (in the market for finished goods) is directly related to the full employment level of employment N_0 in the labour market.

In the money market, let us assume that the individual is concerned with the real value of cash balances and that he holds or his demand for money is denoted by M_d/P , and assume further as Keynes, that this total demand is divided into transactions and precautionary demand varying with the level of income (Y) and speculative demand varying inversely with the rate of interest (r). Thus,

$$\frac{M_d}{P} = L_1(Y) + L_2(r) \dots \text{(vii)}$$

or
$$\frac{M_d}{P} = L(Y, r) \dots \text{(viii)}$$

or
$$M_d = pL(Y, r), \text{ this the demand for nominal (money) cash balances.} \dots \text{(viii)}$$

Since we assume that the nominal amount of money in circulation is fixed at the constant level M_0 , therefore, the supply function of money is :

$$M_s = M_0 \dots \text{(viii)}$$

and therefore, in equilibrium
$$M_d = M_s \dots \text{(ix)}$$

To complete the analysis we must examine the model from the viewpoint of general equilibrium analysis. The above-mentioned nine equations and nine variables ($E, Y, p, N_d, N_s, w/p, M_d, M_s, r$) can be reduced to the following three equations and three variables p, w and r and we get the following equations for the initial period:

$$\begin{array}{ll}
 f\left(Y_0, r, \frac{M_0}{p}\right) = Y_0 = \text{good market} & \dots(x) \\
 g(w/p) = h(w/p) = \text{labour market} & \dots(xi) \\
 pL(Y_0, r) = M_0 = \text{money market} & \dots(xii)
 \end{array}$$

These are the conditions for equilibrium in the markets for goods, labour market and money market. Further, assume that there exists a price level p_0 , a wage level w_0 , and interest rate r_0 , whose joint existence (at p_0, w_0, r_0), simultaneously satisfies the equilibrium conditions for all the three markets.

In other words, the same set of values— P_0, w_0 , and r_0 , simultaneously cause:

- (a) The formation of an aggregate function showing that the aggregate amount demanded (AD) is equal to the full employment output,
- (b) Equalizes the amount demanded of labour with the supply,
- (c) Equates the amount demanded for money with the supply of money. Under certain simple assumptions, the equilibrium position described here must be a stable one.

For example, suppose an excess demand for the goods raises the absolute price level and an excess demand for money raises the rate of interest and the labour market is always in equilibrium (because there is very little lag between money, wages and prices). Also assume that there are no destabilising expectations then, the above assumptions made about the forms and slopes of the various demand and supply functions ensure the stability of the system.

The Effect of an Increase in the Quantity of Money:

The equilibrium position as described above prevails during a certain initial period (t). Now, let us assume that there is a new injection of additional quantity of money into circulation which disturbs the initial equilibrium position. We shall see how a new equilibrium position is established (comparative statics) and how does the system converge to the new equilibrium position over time (dynamics).

Suppose the amount of money in circulation increases from M_0 to $(1 + t) M_0$, where t is a positive constant. It will be seen that a new equilibrium position will come to exist in which prices and wages have risen in the same proportion as the amount of money and the rate of interest has remained unchanged.

Thus, when the amount of money in circulation was M_0 , the equilibrium of the economy was attained by p_0, w_0 and r_0 . But when the money increases to $(1 + t) M_0$ the new equilibrium is attained at the price level $(1 + t) P_0$, wage rate $(1 + t) w_0$ and interest rate remaining unchanged at

ro. Now, when the prices rise in the same proportion as the amount of money, the real value of cash balances is exactly the same as it was in the beginning or in the initial period t and the rate of interest remains unchanged.

Hence, the new aggregate demand (function) must be identical with the aggregate demand (function) of the initial period and as the market for goods was in equilibrium in the initial period it must be in equilibrium now. Similarly, if wages and prices rise in the same proportion then the real wage rate remains the same as it was in the initial period and, therefore, the labour market which was in equilibrium at the initial real wage rate (w_0) must be in equilibrium now.

The position in money market is slightly different. When the amount of money supplied has increased from M_0 to $(I + t) M_0$, it is clear that the demand function (schedule) for money must also change and if the demand schedule for money does not change and remains in its original position, then it is obvious that the equilibrium cannot be attained at the initial rate of interest r_0 . We know that the demand schedule for money cannot remain in its original position because the nominal amount of money demanded depends upon the price level and if the price level increases, so must also the demand for money.

In other words, in the initial period when the price level is p_0 and the rate of interest is r_0 , people wish to hold M_0 (amount of money)—but when the price level has increased from p_0 to $(I + t) P_0$, people must wish to hold the larger amount of money; say, $(I + t) M_0$. Hence, when the amount of money in circulation is $(I + t) M_0$, the money market, too, is or becomes in equilibrium at the price level $(I + t) p_0$ because the demand for money has gone up to $(I + t) M_0$ but the rate of interest will remain unchanged at r_0 as shown in the Fig. 29.1.

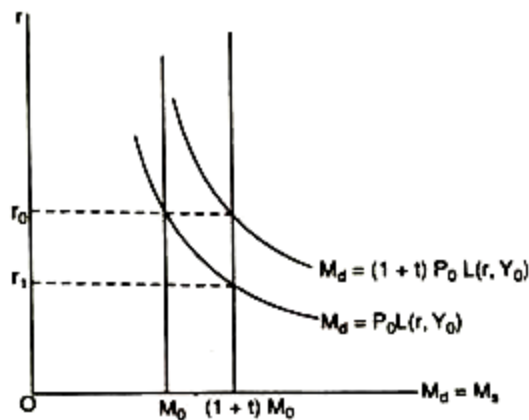


Fig. 29.1

Patinkin has shown that the same kind of equilibrium is possible even when the analysis is dynamic, that is, through different time periods. The typical time paths of the variables would be such as to generate equilibrating forces e.g., the quantity theorists assert that in the initial stages after an increase in the amount of money the rate of interest would decline (from Or_0 to Or_1 in Fig. 29.1); but that when prices begin to rise due to increase in money supply, the interest rate,

too, would rise again to its original level (from Or_0 to Or_1). In other words, with an increase in the quantity of money the price level no doubt rises continuously towards the new equilibrium level and the same will be true of the wage rates. Under these circumstances, Patinkin's analysis has shown that the interest rate may decline first but rises once again to its original value.

Equilibrium in the market can be established only at a rate of interest lower than r_0 , for only by such reduction could individuals be induced to hold additional money available. But prices, on the other hand, have also changed by now. Since the excess supply in money market shows excess demand in the commodity market, this excess demand must result in raising the prices.

This, in turn, reacts back on the money market (through the multiplicative p in the demand for money equation). In particular when the price level has finally doubled, the demand for money must also double, bringing back the original rate of interest r_0 .

This is the crucial and central point of Patinkin's analysis. It is true that during the process the system may, at times, 'over-compensate' and the price level and the interest rate may be at some stage rise above their equilibrium values but, it cannot be denied, as claimed by Patinkin that an increase in the quantity of money would raise the price level proportionately at the invariance (un-alterability) of the rate of interest.

The whole process is bound to generate equilibrating forces which will lower the values of various variables to their equilibrium positions. Thus, we see that once we keep in mind Patinkin's influence of the real cash balances in mind and an increase in the quantity of money will cause an equi-proportionate increase in price level and money wages while leaving the rate of interest unaffected (thereby maintaining the neutrality of money). Although we have reached this conclusion, as does Patinkin, through modern analytical framework of income-expenditure approach or the Keynesian approach but the result that emerges is that of the traditional quantity theory of money.

Neutrality of Money:

The above analysis of Patinkin's monetary model brings to light very clearly one of the salient features of money or the quantity of money called the 'neutrality of money'. If money is neutral, an increase in the quantity of money will merely raise the level of money prices without changing the relative prices and the interest rate. Patinkin (with the help of Keynesian framework) arrives at the classical conclusion that relative prices and the rate of interest are independent of the quantity of money.

The significance of his approach lies mainly in establishing the neutrality of money. However, it is this neutrality of money, which has been the main object of attack by Gurley and Shaw in

their— ‘Money in a Theory of Finance’—the main purpose of this book is to elaborate conditions under which money cannot be neutral. Gurley and Shaw severely criticized this feature of neutrality of money, for establishing which Patinkin had taken so much pain. Gurley and Shaw distinguished between outside money and inside money to show that the money will not be neutral.

Gurley and Shaw with the help of different mathematical and monetary models show that if the money supply consists of a combination of inside and outside money, the classical neutrality of money does not hold good. A money supply consisting of a combination of inside and outside money implies that changes in the quantity of money will not simply produce a movement up or down in the general price level but will also produce changes in relative prices.

This conclusion is easy enough to understand—whenever the public holds a combination of these kinds of money, a change in the quantity of one of them without a change in the other will change the ratios in which people are obliged to hold assets and owe liabilities. If there is a change in the amount of outside money alone without a change in the amount of inside money, there must be a change in the ratios of the debt that backs the inside money to the outside money, so that a change in the quantity of money involves a change in the real variables of the economic system, as a whole.

For example, suppose there is only outside money in an economic system like gold coins and let us suppose that the quantity of this money (gold coins) is doubled which simultaneously doubles the price level, then we get back to the initial real situation—that is, all the relative prices are the same and the ratio of real balances to everything else is the same as it was before.

Let us suppose, now that there are two kinds of money gold coins and bank deposits—suppose, we double the amount of gold coins but do not change the amount of bank deposits—then, if we double the price level we can restore the real value of gold coins, but we will reduce the real value of bank deposits and the assets backing them, so that the community cannot get back to the situation, it started from.

Consequently, there must be some change somewhere else in the economic system to reconcile people’s desires for assets and liabilities with the changed amounts that are available. This analysis takes Gurley and Shaw several hundred pages to develop, but the key to it is, the devising of a situation in which the ratios of assets change. The whole purpose of their analysis is to show that money is not neutral. H.G. Johnson also endorses these views expressed by Gurley and Shaw on the non-neutrality of money.

Lloyd Metzler has also repudiated the neutrality of money theory with the help of general equilibrium model through IS and LM curves as shown in Fig. 29.2. In this diagram, we measure income along OY and rate of interest along vertical Or. The initial equilibrium income and the rate of interest corresponding to full employment are simultaneously determined by the intersection of IS_0 and LM_0 curves at income Y_0 and interest r_0 respectively.

Now, if the central bank follows a policy of open market operations and begins purchasing securities and bonds, the nominal stock of money will increase; this, in turn, will cause a shift in the LM function from LM_0 to LM_1 which will determine equilibrium at a lower rate of interest r_1 and the income Y_1 . There is, now, an excess of income over the full employment income.

This excess of income is shown by $Y_0 - Y_1$. This represents the inflationary gap. This will initiate a process of inflation. The real balance effect will now become operative and the LM function will shift to LM_2 . The IS function will also shift at the same time from IS_0 to IS_1 , on account of a reduction in consumption spending owing to a decline in the value of real balances.

The shifting of the LM curve to LM_2 and IS_0 curve to IS_1 will restore the equilibrium again at full employment income Y_0 but the rate of interest has declined from r_0 to r_2 . Hence, the money is not neutral (because the rate of interest cannot be considered to remain unaffected).

Unless a few conditions are fulfilled the money cannot be neutral, for example, there must be an absence of money illusion, wage-price flexibility, absence of distribution effects, absence of government borrowing and open market operations and there is no combination of inside-outside money. According to Patinkin, an individual suffering from money illusion reacts to the change in money prices.

Money illusion constitutes a friction in the economic system and as such it makes it imperative for the monetary authority to create just the right amount of nominal balances if the neutrality of money is to be achieved. Similarly, flexibility of wages and prices is an important condition of the neutrality of money. Rigidity of wages and prices will prevent the real balance effect from making itself felt and hence it will become difficult to abolish inflationary pressures.

Money will, as a result, be non-neutral. The distribution effects imply the redistribution of real incomes, goods balances and bond amongst the individuals and institutions following changes in prices and stock of money. For example, a price increase may reduce the demand for consumer goods and increase the demand for money and bonds bringing about a redistribution against high consuming groups and in favour of high saving and lending groups.

Such a redistribution will mean a lowering in the rate of interest in case the quantity of money is doubled. Money, under these circumstances (unless distribution effects are absent), cannot be

neutral. Again, the government borrowings and central banking open market operations have non-neutral effects on the system. Money will be non-neutral, as already seen, if there is a combination of inside-outside varieties of money.

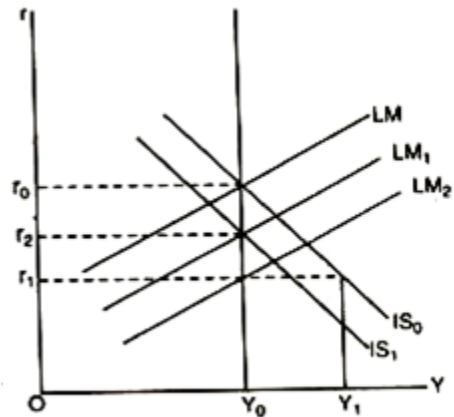


Fig. 29.2

Source: <https://www.economicdiscussion.net/>