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Comparison and Coordination of Theories of Interest: a New Theory for Structural Adjustments in India

Dr. Naila Iqbal Khan*

Assistant Professor, Department of Management Studies, Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh, India-462016
Email:nailaiqbal@rediffmail.com

Abstract

The integration of the world's financial markets is increasing the pressure of external factors in the determination of domestic monetary policies and interest rates. Though the approaches of Major central banks towards the conduct of monetary policy differ in detail, there is broad agreement on fundamentals:

a) Pursuit of price stability

b) Stability of financial markets.

For this reason, real long-term interest rates are likely to converge on an international norm, the level of which will be determined by a complex interaction of both monetary and real factors, (New theory) and in particular by the pace of technological advance.

Keywords: Monetary Policy**;** Theories of Interest**;** FLS Curve**;** MPf curve

1. Introduction

Interest: Interest is best defined from the point of view of the lender, as the reward for parting with liquidity preference. It can be defined as price for the use of money of others. The interest on a loan is determined through the establishment of an *interest rate, which is expressed as a percentage of the amount of the loan.* Lenders, who lend money to borrowers either of their own or by arranging money from others, are profited from such transactions by pay back of an additional amount of money over and above the sum that they lend to the borrowers. This difference between what is lent and what is returned is known as *interest.*

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* Corresponding author.
E-mail address: nailaiqbal@rediffmail.com.

In other words, *interest* is a fee paid by a borrower of assets to the owner as a form of compensation for the use of the assets. It is most commonly the price paid for the use of borrowed money, or money earned by deposited funds. When money is borrowed, interest is paid to the lender as a percentage of the *principal***,** the amount owed to the lender. The percentage of the principal that is paid as a fee over a certain period of time (typically one month or year) is called *the interest rate.* A bank deposit will earn interest because the bank is paying for the use of the deposited funds. Assets that are sometimes lent with interest include money, shares, consumer goods through hire purchase, major assets such as aircraft, and even entire factories in finance lease arrangements. The interest is calculated upon the value of the assets in the same manner as upon money.

Hence it can be said that interest is compensation to the lender, for

- Risk of principal loss, called credit risk.
- Forgoing other investments that could have been made with the loaned asset.

These forgone investments are known as the opportunity cost. Instead of the lender using the assets directly, they are advanced to the borrower. The borrower then enjoys the benefit of using the assets ahead of the effort required to pay for them, while the lender enjoys the benefit of the fee paid by the borrower for the privilege. In economics, interest is considered the *price of credit.* Interest is compounded, in term deposits if that way specified, which means that interest is earned on prior interest in addition to the principal. The total amount of debt grows exponentially, and its mathematical study led to the discovery of the number *e*. In economic terminology, the interest rate is the cost of capital and is subject to the laws of supply and demand of the money supply. The first attempt to control interest rates through manipulation of the money supply was made by *the French central bank in 1847.*

The first formal studies of interest rates and their impact on society were conducted by Adam Smith, Jeremy Bentham and Mirabeau during the birth of classic economic thought. In the late 19th century leading Swedish economist Knut Wicksell in his *Interest and Prices* elaborated a comprehensive theory of economic crises based upon a distinction between natural and nominal interest rates. In the early 20th century, Irving Fisher made a major breakthrough in the economic analysis of interest rates by distinguishing nominal interest from real interest. Several perspectives on the nature and impact of interest rates have arisen since then.

The latter half of the 20th century saw the rise of interest-free Islamic banking and finance, a movement that attempts to apply religious law developed in the medieval period to the modern economy. Some countries, including Iran, Sudan, and Pakistan, have taken steps to substitute interest paradigm from their financial systems entirely with interest, profit loss sharing scheme. Interest is prohibited, as well as making money out of money is unacceptable. All financial transactions must be asset-backed and economy does not charge any "fee" for the service of lending.

1.1 Theories of Interest, Comparison and Co-Ordination and its Relation with Investment

The main focus of the interest theory is on the charged amount paid against borrowed money. Though money is the most familiar form of asset at the time of lending, yet during arrangements of fiscal lease, interest theory

considers other asset forms like consumer goods through hire purchase, shares, factories, aircrafts and other primary assets as well. In each of these cases, the rate of interest is charged on the total asset values, just like it is calculated on money. As per the theory of interest, different types of interest (interest rates) exist in global economic market of present financial system like: Simple Interest, Compound Interest, Fixed and Floating Rates of Interest: Cumulative Interest or Return:

1.2 Reasons for change of interest rate

- **Political short-term gain**: Lowering interest rates can give the economy a short-run boost. Under normal conditions, most economists think a cut in interest rates will only give a short term gain in economic activity that will soon be offset by inflation. The quick boost can influence elections. Most economists advocate independent central banks to limit the influence of politics on interest rates.
- **Deferred consumption**: When money is loaned the lender delays spending the money on *consumption* goods. Since according *to time preference* theory people prefer goods now to goods later, in a free market there will be a positive interest rate.
- **Inflationary expectations**: Most economies generally exhibit *inflation*, meaning a given amount of money buys fewer goods in the future than it will now. The borrower needs to compensate the lender for this.
- **Alternative investments**: The lender has a choice between using his money in different investments. If he chooses one, he forgoes the returns from all the others. Different investments effectively compete for funds.
- **Risks of investment**: There is always a risk that the borrower will go bankrupt, abscond, die, or otherwise default on the loan. This means that a lender generally charges a risk premium to ensure that, across his investments, he is compensated for those that fail.
- **Liquidity preference**: People prefer to have their resources available in a form that can immediately be exchanged, rather than a form that takes time to realize.
- **Taxes**: Because some of the gains from interest may be subject to taxes, the lender may insist on a higher rate to make up for this loss.

1.3 Theoretical make-up and introduction of theories of interest rates

The theories of interest rates take into account the cost of money, so subject to alterations due to inflation. The critical minimum rate of interest primarily considers the actual interest rate along with inflation. It is this critical minimum interest rate or the price before alteration due to inflation, which is made available to the customers. Market interest rate is the primary concern of the interest theory. The rate of interest in the global investment market is determined on the basis of the prevailing conditions of retail fiscal organizations like banks, bond market and financial market. Each type of debt considers the following factors before calculating its rate of interest that is*:* Opportunity Cost, Inflation, Interest Rates and Credit Risk

Interest rate is a solution part of the government's economic policy so we will look at important theories about how interest rates influence the financial system and individuals. It is defined as the rate at which interest is given by a borrower for utilizing money that they take from a lender. Interest rate will change based on the system followed by a lender.

1.4 Theories of Interest Rate by their Genus

- **Expectation theory:** It will give expected future interest rates also. The shape of the yield curve and the term structures of rates are reflective of the aggregate expectations of the market.
- **Liquidity theory:** This theory suggests that shareholder will desire longer term maturities if they are provided with supplementary yield that compensate them for lack of liquidity. It implies that the liquidity theory ropes that forward interest rates attain a liquidity premium and an interest rate anticipation constituent.
- **Preferred Habitat hypothesis:** Habitat hypothesis suggests that investors who frequently prefer one maturity horizon over another can be influenced to change maturity horizons given a proper premium. In this theory the nature of the yield curve depends on the policy of market participant.
- **Market Segmentation hypothesis: S**egmentation theory involves dissimilar investors have different investment horizons that take place from the nature of their business. It prevents them from noticeably changing maturity dates to take improvement of temporary opportunities in interest rates.

If the good old theory of demand and supply is not taken into account, we can say that there are several theories of interest which are still of some importance. But their explanations are to be used either for the supply side or for the demand side of the "demand and supply theory" and they are "synthesized for determining interest rate equilibrium". Theories of interest differ with systems. No other factor of payment is advocated to be "banned" or disallowed in a system, except interest, as in Islamic banking.

It will also be interesting to note what type of interest policy was there in socialism which despised capitalism based on capital! They practiced the discriminatory interest policy of high interest rate against the consumers or for consumer durables industries. Savings or capital was allocated on low rate of interest for investment goods industries and war goods (known as defense goods industries). Consumer durable goods industries of "a little higher order" were allocated capital at still higher rate of interest.

Under no system, there can be one rate of interest for the depositors or for the borrowers. There are discriminatory or differential rates of interest. One important feature of interest is "subsidized" interest rate system where the interest charged is less than the cost (interest paid to the depositors plus all administrative costs). There had been interest waivers also in early years of planning in some countries. *Interest rate was politicized in many planned economies.* The more free an economy, the less the spread of interest rates. A regular economy will have a wide band of interest rates. Different entrepreneurs can be treated differently by the politicians who impose discriminatory interest rates, particularly when the banks were nationalized, as in India.

Ultimately, interest rate policies are of two types only --- cheap money policy and the dear money policy. The absolute levels of cheap and dear money policy will differ from country to country. The capital abundant countries can go in for a cheap money policy, which will be dear for a poor country. Interest is the reward for saving, which is an automatic function of income in the rich countries. Hence it does not deserve a high reward. Even at zero rate of interest there will be savings in the US and Europe. *In fact the banks there can even take "cloak room" charges for safe keeping of money.*

This will not be so in a capital poor Asian country like India. Here people do abstain from even necessary consumption to save something as "hump" saving. There is waiting involved. There is sacrifice of the present wants for the future. The interest rate to be paid to the depositors has got to be high to encourage savings. The poor save and almost in all poor countries receive negative returns i.e., lower interest than the rate of inflation. In poor countries savers prove a fool of themselves. If they spend now, they get more CGS (Commodities, Goods and Services). If they save now and spend later on, they get less CGS of the same quality even with the interest effect added to the position. Savers receive inferior money in future. Spendthrifts use superior money now --- in terms of purchasing power. Some suffer from money illusion. Some become victim of same despite not suffering from money illusion because they need "lumps" of money in future for consumer durables, high priced assets or for some expenditures which require savings (as for marriages in India , which are a costly affair). Schumpeter had designated interest as the "brake" on development and the profits as "accelerator" of development. Schumpeter did not condemn interest as he (and all others) knew that brakes are also necessary for an automobile. A free economy is by definition an "auto-mobile".

Interest converts savings into capital. Banks as "financial intermediaries" facilitate this. They do not lend money to investors; the borrower do albeit indirectly and without direct knowledge about the same. Banks take money from the "surplus" units who can be "surplus units" despite low income because they do not have investment plans. The banks lend money to "deficit units", which are "deficit units" because they have investment plans of more money than they have. Interest is a tool which brings near equilibrium but not full equilibrium.

Interest received by the bank from those whom it lent money is "gross interest". "Net interest" is what is left with it after deducting administrative costs, reserves for bad debts and insurance (if any). Depositors receive gross interest from banks and a non-measurable compensation for "inconveniences" of waiting for the use of money can be deducted to arrive at the "net rate of interest". "Real rate of interest" is the most important of the three terms and it is net interest after compensation for inflationary erosion in the value of money.

Real interest to be positive requires indexing of inflation and it was reportedly once tried in Mexico. If Rs. 10 Cr. is deposited at 10 per cent rate of interest, the depositor gets Rs. 11 Cr. after one year. If the inflation was 18 per cent then 1.98 Cr. is to be added to Rs. 11 Cr. This will be Rs. 12.98 Cr. or nearly Rs. 13 Cr. in total. No country seems to be linking interest with the real value of money.

Interest earners in all cases, except in "A" category countries of EU (like Germany) where inflation of not more than 1 per cent per annum is allowed, receive net real interest which is positive. In the trade–off between inflation and unemployment, only a few countries of the world prefer a low rate of inflation to a high rate of unemployment. Hence countries hitch the economy to cheap money policy to generate unemployment. It is to be noted that interest rate cannot equate the demand for capital with the supply. More money/capital is demanded in the developing economies for investment than can be supplied by the savers. This work is facilitated by the central government by printing additional money to be used as capital for investment under the policy of "pump priming" in the system of "state capitalism".

1.5 Theories of Interest (according to Historical order)

- The marginal productivity theory of interest propounded by [1].
- Abstinence theory propounded by N.W. Senior [2].
- Waiting theory propounded by Marshall [3].
- Loanable fund theory propounded by [4].
- Liquidity preference theory of interest was propounded by Keynes [5].
- Hicks Hansen [6], Synthesis of the interest Theory is: IS-LM Curves Equilibrium.
- Mathematical Theory of Interest.

2. Propounding a New theory of interest for policy adjustments in India [7]

The truth in India is that no one believes in the mock exercises of the Government of India about using the vista of inflation for any policy initiative or improvement. For this purpose I thought to propound a new theory which may explain that how the interest rates are decided in India. The demand and supply factors have been agglutinated in a very different way as a Supply Side we take the supply curve which is the same positively sloping curve but it is called "Formal Liquidity Supply Curve". This is akin to the loan-able supply curve but there are differences. The FLS Curve will include the funds available for the formal commercial sector supply as also all types of plastic moneys (monies) that figure in such markets. These funds do not include the funds for (i) non-commercial uses and for (ii) black-economy commercial funds. This is FLS curve and not the LP curve. In any case the LP theory of interest was based upon the two curves of the supply side only. The counterpart space of money-held-liquidity-preference was money supplied. It was put in juxtaposition of the money supply from the government and financial sectors.

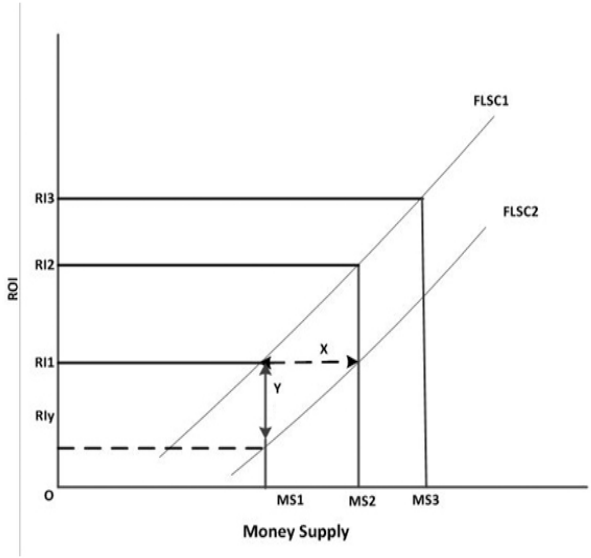

Figure 1: Schedule of FLS Curves

Figure 1 shows the rate of interest on the vertical axis and the money supply on the horizontal axis. The causation runs from the vertical axis to the horizontal axis.

- Higher the rate of interest, higher is the supply of liquidity funds. If due to richness or increasing income the supply of money improves the FLS curve will move to the right. Then on the same rate of interest more funds will be supplied.
- Opposite effect can be shown if the curve on the right side is taken as the first position and the change to the left is taken as the second position. Then due to shortage of FLS the increase in the rate of interest will be necessary for the same supply. On the same rate of interest, the supply of FLS will go down.

India is still a capital poor country. It cannot be compared with the US or Euro zone countries. Famous banker-economist, one of the three founders of the classical economics, David Ricardo, had rightly pointed out that "Unemployment of labour is actually the shortage of capital ".Hence nothing should be done to reduce the supply of FLS. If depositors are driven away from the formal financial market then they will go to the (i) the new financial markets (not new for shares and debentures) and there they lose the money in most cases. Money lost in the mutual funds markets or in various new fangled "financial products markets" remains current but in the non-formal economy. That is wrong transfer. Similarly money that goes to the realtors and to the sellers of gold where money is invested after taking it out from banks remains in the white economy but most of the profits go into the black or grey economy. Indian Zebra of the economy is becoming blacker now.RBI says that it is worried about the quality of assets of banks. It does not say it in simple and transparent words that, “the loans given have become bad debts”. Its old word "Non-Performing Assets (NPAs)" has been understood and hence it is using yet another proxy for the same to keep the bad debts in integument.

India is a country where the India Inc. at the top, at the middle and even at the lower rung is flooded with money. They do not need credit from commercial banks. They take credit to manipulate accounts. They practice "transfer pricing systems" even inside the country. They use the money taken from banks for building their personal assets and for using the bank money for shark loaning.

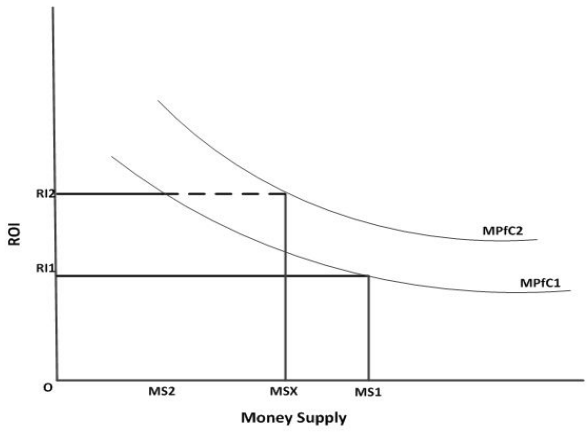

Figure 2: Schedule of MP_f Curves

Figure 2 shows the demand side we can have the same good old demand curve akin to marginal productivity curve. However, we can call it Marginal Profitability Curve. The demand for the funds does not now depend upon the physical productivity. Rising physical productivity creates plentiful supplies. The margins go down.

The producers are not much interested in this. The business Inc. of India is interested in keeping the shortages. India Inc. and India Business Inc. is interested in the high margins multiplied by output. India Inc. is more interested in the margins rather than in outputs. This is not to say that it is not interested in increasing the outputs at all. In India the producers of primary sectors are more interested in increasing output. Margins have gone in the hands of the intermediaries.

Figure 2 also shows at higher profitability the MP_f C moves to the right when improved and moves to the left when it deteriorates. A down ward sloping (negative slope) curve shows less money is demanded at higher rate of interest and more money is demanded at lower rate of interest. If demand Improves, more money will be demanded at the same rate of interest or as a result of the fall in the rate of interest the demand of money will increase more than proportionately.

Figure 3 shows the demand curve MP_fC and supply curve FLSC, both intersect at point E. This is the equilibrium point. Here the funds demanded are equal to the funds supplied. Funds demanded and supplied are equal to OM. Any other rate will be non-equilibrium rate. Therefore there will be changes in the shapes of the MP_fC and FLSC, till the equilibrium point rotates back to E.

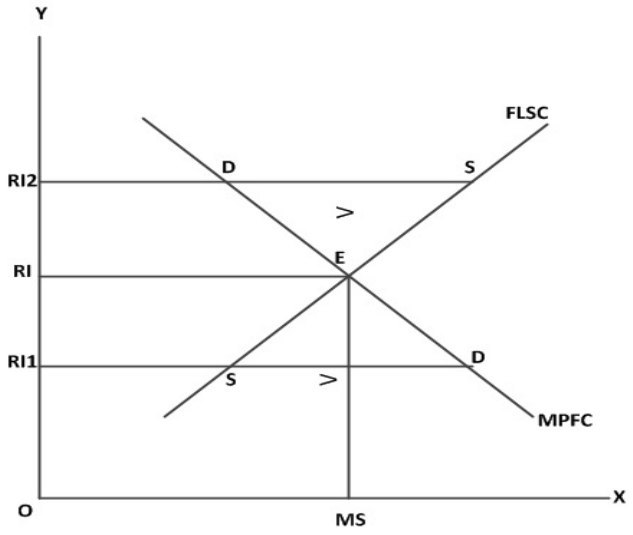

Figure 3: Intersection of FLSC and MP_f C

3. Analysis of the study (were Keynes theory of interest is criticized on the following grounds)

Lord Keynes has criticized the Classical theory of interest as being indeterminate. According to him, these theories do not take income changes into account. The fact is that Keynes theory of interest itself assumes a particular level of income and does not take income changes into account. As such it is also indeterminate.

The theory put forward by Keynes offers only a monetary explanation of the determination of rate of interest. It altogether ignores the real factors such as marginal productivity of capital, thrift etc., which work behind the demand for money and supply of it.

According to Keynes, interest is the reward for parting with liquidity. It is in no way as inducement for saving. According to Jacob Viner, it is saving which makes funds available to be kept as liquid. Without saving, there can be no liquidity to surrender. Keynes has ignored this aspect in the determination of rate of interest. Keynes theory explains the determination of the rate of interest in the short run. It fails to explain the rate of interest in the long run.

According to Hicks and Learner, the rate of interest along with the level of income is determined by (1), marginal efficiency of capital, (2) consumption function, (3) the liquidity preference function and (4) the quantity of money function. Keynes has discussed the last two elements in his interest theory and has ignored the first two elements. The theory of interest is, thus, not properly integrated.

As far as the ISLM curve theory of interest is concern this theory is criticized on following grounds:

It fudges the distinction between real and nominal interest rates, so it can put the two curves on the same graph. Every time you write down an IS-LM model you should hear a clock start ticking in your head. The longer the clock ticks, you more you need to worry about this problem because the more that a) the price level may change, or b) expectations about future price level changes will start to matter. It fudges the distinction between short-term interest rates (for the money market curve) and long-term interest rates (a determinant of investment). They're not the same! Don't assume they are the same, just to squash the two curves onto the same graph.

It leads you to think that the distinction between non-interest bearing currency and short-term interest-bearing securities is a critical wedge for the economy. It also implies that if all currency paid interest (a minor change, most likely, macro economically speaking), the economy would behave in a totally screwy way. It probably wouldn't. The model leads you to believe that interest rates are more important than they probably are. For a while it treats "money" as the non-interest-bearing security, and then for a while it treats money as the transactions media behind AD, something closer to M2.

It overemphasizes flows and under-emphasizes stocks of wealth. The quantity theory approach, as wielded by Fisher and Friedman, does not induce individuals to make this same judgment. For one thing, *this distinction really matters when you're trying to predict the macro effects of "window breaking."* The flows perspective will usually be more optimistic than a perspective which recognizes both stocks and flows.*Those aggregate curves are not invariant with respect to expectations*, including expectations of government policy. You don't have to believe in an extreme version of the Lucas critique to worry about this one. Those curves are conditional and the ceteris paribus assumption is not to be taken lightly here.

In the LM curve, what is the embedded reaction function of the Reserve bank? Good luck with that one. Pondering this issue leads us to conclude that the whole model was written for an economy fundamentally

different than SOUTH ASIAN and Indian economy. The most important points, for instance about the significance of AD, one can derive from a quantity theory or nominal GDP perspective.

This new theory of interest should be post Keynesian and post ISLM synthesis. The ISLM synthesis is no doubt an important over Keynesian formulations but a simple elegant theory is also necessary. ISLM synthesis is very important but also very complicated. Renowned scientist Einstein had once remarked, that a writer should be known for presenting difficult thesis in simple way. I hazard a claim that my synthesis is rational and has simple elegance. We need two conventional demand and supply curves. My demand curve is the same negatively sloping curve showing inverse relationship of profitability percentage to rate of interest. My claim to novelty is that I have substituted marginal productivity curve of capital (K) with marginal profitability curve related to the rate of interest (ROI).

The Marginal Profitability Curve can be seen in two ways in Figure-2 the profitability rises as more capital is employed. (K) Capital can also be shown on vertical axis along with ROI or separately also. The marginal profitability curve can find a plateau for some time and there after the MPf Curve will decline. We also see that the marginal profitability is rising not because of high and higher rate of interest but despite of rising ROI because of innumerable market factors for early bird investment.

The conventional MPf Curve of negative slope is related both to ROI as well as Capital and this state is because of highly competitive market. This synthesis of mine has another improvement over others that it is based upon perfectly competitive market, and not on Monopoly market situations. This shows that 'other things are remaining same' at higher ROI profitability is low and at lower ROI profitability is high.

If the producer has a Monopoly situation in market whatever be the ROI his profits will increase always or at least remain same at any ROI. We need a supply curve which is conventional as well as right. I feel that there is an error in presenting the Liquidity Preference curve for speculative motive in Keynesian theory. We know that a person has three motives to have Liquidity for transactions motive, precautionary motive and speculative motive.

The LP curve of TM is a vertical Straight line which shows interest inelasticity. The LP curve of Precautionary motive is also more or less interest inelastic. The LP analysis has two fields. In the left side field money held is shown and in the right side field money for speculative preference or purpose is shown which can be given on loan. Keynes was however right that at a certain low rate of interest all the money is held and none is loaned out because the opportunity cost of holding money is very low.

According to Keynes, the higher the rate of interest, the lower the speculative demand for money, and lower the rate of interest, the higher the speculative demand for money. Algebraically, Keynes expressed the speculative demand for money as

$M_2 = L_2 (r)$

Where, L_2 is the speculative demand for money, and r is the rate of interest.

Geometrically, it is a smooth curve which slopes downward from left to right. Now, if the total liquid money is denoted by M, the transactions plus precautionary motives by M_1 and the speculative motive by M_2, then

$M = M_1 + M_2$. Since $M_1 = L_1 (Y)$ and $M_2 = L_2 (r)$, the total liquidity preference function is expressed as $M = L (Y, r)$.

Keynesian masterpiece in his theory of interest was the concept of "Liquidity Trap". He was right in his two strong assertions. First was that a low rate of interest is a necessary condition for increasing private investment but not a sufficient conditions. His sentence "investors will not borrow even at zero rate of interest if the MEC, or expectations about future profits, is low" can be repeated again.The second assertion was that the efforts to increase investment by bringing down the rate of interest cannot succeed if they are directed towards reducing the liquidity preference, which cannot be reduced merely by persuasion.

Keynes however failed to depict his assertion that Liquidity Preference for speculation motive goes down with a rise in the rate of interest because he should have shown a rising curve of liquidity as loan able fund in response to rate of interest. In fact if interest differentials exist in the market there will be reshuffling of positing of funds.(Eg. If post office rates are higher than people will transfer funds from banks to PO. It was for this reason only that GOI is now keeping the caps of interest rates of banks and post offices more or less equal to check the swapping of funds.)

Keynesian theory of interest is by birth indeterminate. All the crucial variables in Keynesian system have two determinants objective and Subjective. Like (MPC) Marginal Propensity to Consume depends upon income and propensity to consume where income is objective and measureable and propensity is subjective and non measureable.Like (MEC) Marginal Efficiency of Capital depends upon replacement cost of capital and expectation of profit where replacement cost of capital is objective and measureable and expectation of profit is subjective and non measureable.Like ROI Rate of Interest depends upon (MS) Money Supply and (LP) Liquidity Preference where Money Supply is objective and measureable and Liquidity Preference is subjective and non measureable.How can one measure the outcome if it depends on two variables one of which cannot be measured? Besides the Keynesian theory of interest shows liquidity preference (Money held Vs money given) for a period of time, but the second determinant that is the money supply is shown over a point of time. The bars are erected (in diagrams) to show the money supply at a point of time and the vertical segment is of the same value as the point of horizontal axis.

4. Limitations of the study

- The data is mostly secondary in nature.
- In absence of sufficient data personal judgment have been taken on reasonable assumptions.
- In-depth study of various interest rates is difficult as the data available is insufficient.
- The researcher feels that there is still a knowledge gap which can be filled with new and powerful analytical theories.

5. Conclusion

Theories of interest rates are very important in economics because these theories play an important role in explaining the psyche of people and people's motives to hold or release the cash. This liquidity preference of people is very important in deciding the rate of interest via Money Supply in economy. Inflationary expectations, however, are one of the most important determinants of interest rates. Broadly, savers demand a real return from their investments. Changes in the forecasts of future inflation are therefore reflected in the current prices of assets. The effect on bonds of varying maturity, for example, can be charted as shifts in the "yield curve". Rates of interest also reflect varying degrees of risk. A body with a rock-solid credit-rating, like the State Bank of India will be able to attract savings at very much lower rates of interest than corporate issuers of "junk bonds". Countries with high levels of existing debt in Europe may have to pay higher rates on government borrowing than countries where the risk of default is less. Indeed, the guarantee that "sovereign debt" will be repaid on maturity has frequently allowed governments to borrow even at negative real rates of interest. Within any economy there will therefore be a multiplicity of interest rates, reflecting varying expectations and risks. The markets for different assets — physical and financial — will influence each other as savers shift their portfolios between cash, interest-bearing securities, equity in firms, complex derivatives, real estate, antiques, etc. Financial institutions and large corporations will behave differently from small savers and small businesses.

The existence of global financial markets ensures that *real* long-term interest rates tend to move together in different economies. *Nominal* long-term rates, however, reflect inflationary expectations in the separate economies, which in turn reflect the credibility of domestic monetary policy. Linked to inflationary expectations are exchange-rate expectations; but exchange-rate movements can also take place for reasons unconnected to inflation differentials. Economic theory in this area has a bad record of prediction.

The effect of short-term interest rate changes on long-term rates is not, therefore, straightforward. A rise in short-term rates can lead to, or be contemporary with, a rise in long rates; but also to a fall if the markets are convinced that future inflation has been prevented. The extent to which changes in interest rate levels affect the real economy — investment, growth, employment, etc. — is likewise not clear-cut. A rise in rates, in general, has a negative effect on future Gross Domestic Product and a fall in rates a positive one. But the effects in detail depend on the structure of a particular economy, and the components of demand within it. Recent Japanese experience shows that very low rates of interest, on their own, are not enough to revive a lagging economy.

This new way of deciding interest rates in my theory will be use full in India and capital poor Asian countries where we have taken in to account for all practical purposes the demand and supply sides both and not only the supply side factor which is in control of governments or central banks.

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