

# Integrating Money in Capital Theory: A Legal Perspective Towards Islamic Finance

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**Abstract:** This paper attempts to distinguish money and capital by discussing legal aspects of their relationship. For many years the technicalities of the production function have been emphasized at the cost of neglect of the legalities, which precede that function and indeed effect the transformation of money into capital. Conventionally, money and capital (both thought of as loans) have been distinguished on the basis of the duration of the loan period. We show that the failure to see the legal difference(s) between money and capital has been the source of many fundamental confusions and misunderstandings. As a result of that confusion, Islamic banks are rightly accused of operating on the basis of usury. We argue that, in contrast to the environment in which both conventional and Islamic banks operate today, if, as a result of the elimination of money markets, the supply of money and the emerging institution become endogenous to economic structure, a stable Islamic economic system can be assured.

## I. Introduction

“...the production function has been a powerful instrument of miseducation. The student of economic theory... is instructed to assume all workers alike... and then he is hurried on to the next question, in the hope that he will forget to ask in what units [a quantity of capital] is measured. Before ever he does ask, he has become a professor, and so sloppy habits of thought are handed on from one generation to the next”. Robinson (1979: 76)

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“...as Joan Robinson has stressed again and again, the argument has not really anything to do with the problem of measuring and valuing ‘capital’, as opposed to the meaning of ‘capital’. Harcourt (1982: 355)

Students of economics are traditionally and quite properly exposed to different subjects related to economics, such as accounting, business law, management and organization, etc. However, they seldom get a chance to appreciate their direct relevance to a better understanding of economics, for the main concerns of economic textbooks, generally speaking, are the technicalities of economic theory. I venture to say that not a single microeconomics textbook ever treats the theory of the firm in its legal environment. Yet, specific formal laws and regulations, supplemented by social contracts, decisively influence the behaviour of all economic agents. The absence from the standard economic literature of a clear account of a firm in its legal environment is then remarkable. Another (and, as we shall see, related) blind spot is the defining boundary between money (potential capital,  $M$ ) and actual capital ( $K$ ). That distinction depends in its turn on a proper appreciation of the distinction between interest and profits.

Interest and money are artificial social conventions. Most schools of economic thought recognize money as a necessity and one of many highly valued human inventions. The necessity, even usefulness, of interest has, on the other hand, always been questionable. Now interest is a form of return on money: taking that for granted, a familiar analysis introduces three factors of production, puts them together, and shows how they turn a profit/determine interest. In this analysis, capital has been wilfully misplaced in order to show the necessity and realness of interest. In fact the analysis only shows that *capital* is productive of profit — money, *qua* money, is not productive. Also, many economists have argued that in the end, profit and interest come to the same thing, as over time the rate of profit would equal rate of interest. To the contrary, there is ample historical evidence that the real rate of interest and the real rate of profits over a long period of time for the G-7 countries have never been the same.

Some economists hold firmly that time preference alone is sufficient to prove the necessity of interest. Assuming this is true, interest, according to Schumpeter (1994), would not exist in the evenly rotating economy consisting of overlapping generations. Furthermore, as is generally understood, while the Islamic tradition recognizes the concept of ‘time preference’, it rejects interest, surely on the grounds of the two being quite distinct. Rate of profit, determined in the real sector, and capital, are both such real phenomena

that every school of economic thought has to take them seriously and incorporate them into economic analysis. These concepts are very important in the Islamic economic system. Indeed, the rate of profit is (unlike in the capitalistic system, which centres on interest) pivotal in the Islamic economic system and, more importantly, in enabling equilibrium in the labour, capital, and commodity markets to be simultaneously determined.

Keynes (1964) drew a clear distinction, which had been confused in the old orthodoxy, between interest as a reward for lending money and profit, which was the reward or return that a businessperson hoped to get. This distinction between money and capital is the necessary foundation of a sound and healthy economy. The question that needs to be asked is whether interest is necessary for the proper functioning of an economic system. Serious doubts have recently been raised about its necessity, which is a strong argument for the enduring relevance of the Islamic prohibition of interest.

Treating the monetary sector independently of the real sector of the economy seems to me to lead to what Keynes (1964) called 'some objectionable features' of capitalism. Business cycles are believed to be as old as capitalism, a historical fact. Why then should we not be seeking a way of avoiding these cycles? In a capitalist system centred on the rate of interest, discretionary monetary policy affects the economy in a way notorious for generating instability, since both promote speculation. A sound economic system is surely one with relatively stable fundamental factors and, more importantly, a money supply that is endogenously determined.

Despite the great abundance of admirable writings on many aspects and elements of the conventional capitalist system, there remain important, unanswered questions. One of those is the distinction between money and capital. Robinson at least raised the question.

When Robinson (1979: 117) calls both capital and net receipts of a business 'a sum of money' and says that the two never co-exist in time, she altogether forgets the legality of an established firm. Legal processes have to be undertaken before 'a sum of money' is transformed into actual capital. As soon as these processes have taken place, under some simplifying assumptions, both will co-exist in time. It would be unfair to assume that Robinson was simply unaware of the legal aspects of the matter. She rightly criticizes Keynes for creating confusion by describing a purchase of shares on the Stock Exchange as an act of investment. She consciously distinguishes between shares and loans on legal and philosophical grounds (Robinson, 1979: 37).

By asking the question “how can finance be treated as a factor of production?” Robinson came close to solving the long-standing question, but failed to push the discussion forward (Robinson, 1979: 116). The distinct models developed particularly in the United States to determine the meaning of capital did not satisfy her. Disappointed, she appears to have given up, abandoning the controversy about capital as “a great waste of mental energy” (Robinson, 1979: 125). Not finding the perfect answer to the question she had raised, she gave up, even ignoring what Keynes had to tell us about it. Keynes said that capital in existence at any moment may be treated simply as “part of the environment in which labour works” (1964: 214). This is an important pointer, which, combined and elaborated with some terms borrowed from other disciplines related to economics, brings us very close to an answer to the question.

The financial system is undoubtedly part of the general functioning of the economy but, as has often been explained, the monetary system is independent of the real sector. The lawfulness in the conventional system of money loaned on interest exemplifies (as it also exalts) individualistic behaviour in the economy in that the lender (or bond-holder) takes no part in the outcome of the borrowed money wherever or however it is used. This contrasts with the profit and loss sharing (PLS) contract, whose only manifestation is stock, and in which the stockholder does take responsibility for the outcome of the ‘capital’ invested.<sup>1</sup>

As Robinson puts it: “a new business sets out with a sum of money whether owned by the proprietors or borrowed at interest” (1979: 116). But she is not clear as to the process by which ‘a sum of money’ is put in business. In a later study, she tried to revive the old question and asked whether the quantity of capital was supposed to be a sum of money or a list of ‘machines’ (Robinson, 1953). It is self-evident that in order to set up a business, there is a need for ‘a sum of money’. This sum of money represents the market value of ‘something’. The next section in this paper deals with this ‘something.’

## **II. Basic Model: Money and Capital Reconsidered**

Money, capital, interest and profit are pivotal concepts in the science of economics. For a clear understanding of how they interrelate we need to ask the simple question: What is a ‘firm’?

Laws and regulations are primarily intended to keep order in society; a corollary function is the production of legal entities, with specified rights and responsibilities, which supply numerous kinds of goods and

services that a community wants. These entities are sometimes related to real entities, *i.e.* human beings, and at other times to socially-produced entities. Our concern here is with the commonly known entity of a firm as an institution. The goal of a firm, more precisely, of its stockholders, is to earn profits. Every essential component of a firm, *i.e.* factors of production, is expected to receive its share of those earnings. In capitalism, labour, capital, and land would receive wages, profits, and rent, respectively. These entitlements are made possible only in the framework of the institution of the firm. No amount of people owning any amount of money can expect to earn anything unless and until they have entered into the legal process of establishing a firm. Loan, a social contract, is another institution for which two parties are needed to sign the contract. This contract, although typically entered into for a period of time, is not of the kind where the lender, sometimes bond-holder, can expect any share in its working, even if the loan is used in establishing a firm. Having a share in the working of 'money' is possible only when the possessor of money decides to go through the legal process and instead of becoming the bond-holder becomes a stockholder of the firm. This is the only way the bond-holder can claim a share in the profits of the firm. This distinction is central to our discussion. The failure to distinguish between these two institutions has been the source of much confusion in the economic literature because it has rarely, if ever, been properly and sufficiently noticed.

Providing money to a firm, as a loan, is not the same as supplying capital. Although the bond-holders do not have any right over the workings of the firm even if the money loaned is used to buy assets, they do have the right to claim the principal plus interest charges, even in the event of the firm's bankruptcy. It appears to preserve some balance between rights and responsibilities in that they are not given any right to vote in the firm or claim any share in the profits, while they are entitled to get their loan back. There is a balance apparent too in the rights of the stockholders. They are the owner of the firm and all the profits earned by the firm are theirs. Furthermore, they are the only ones who have the right to vote in the firm and enjoy exclusive claims over the profits. Another distinction that needs to be made is about risk taking. The lenders to a firm hedge against any risk they take with their money but the stockholders are the real risk takers. All rights of the lenders and of the stockholders and preservation of the balances between their rights and responsibilities are conventionally taken care of in Business Laws. Stocks and bonds are two distinct legal documents

with fundamentally different impacts on economic activity. Again, the key to distinguishing money from capital is to bring the institution of the firm into the analysis. To separate money market from capital market on the basis of the duration of the loan period, as is quite often done, is naive.

The foregoing discussion makes it clear that money is not capital. In summary, money must undergo a legal process in order to become capital, it must inevitably take risk in order to be eligible for profits. This legal process changes the nature of money, making money, now capital, part of an institution. This institution employs other factors co-operating with capital to generate earnings or profit. No return to money/capital is legitimate without this process.

Capital of itself cannot generate profit; it must be incorporated with other factors of production. The same is true with land and/or labour. These three primary factors of production are complements before they can be substitutes. Their interdependencies produce a synergy without which the generation of profit can hardly be imagined. In a fair economic system, as the Islamic economic system claims and aspires to be, profit is to be shared with the other factors co-operating with capital. Such interdependencies, however essential and indispensable, can make it difficult to produce a well-defined general equilibrium analysis. However, though difficult, such an analysis is not therefore impossible.

Anything that brings about a money market (intentionally or otherwise), which, in turn, produces interest rates, is to be strictly avoided. Money need not go into such a market in order to become, indirectly, a factor of production. There is a short cut to make this easy, namely to have money go through the aforementioned legal process. Islamic economics, by abolishing interest, clears the fog in one stroke. For those interested in directly financing an investment project, the only safe option is to finance, without interest, as owners of the firm and ask for their share of profits. Such finance can only look to a profit that must originate in the real sector of the economy. This option, which integrates the real and financial sectors of the economy, leaves no room for the money market and its chief pastime, speculation.

A firm by definition is, as we have said, a legal entity, which then can transform inputs to outputs. Its legal entity precedes its technicality. Business laws and other related regulations prevent a firm coming into existence before the formalities of the legal processes are concluded. One can rarely find in the literature the legal aspects of how/when money

transforms into capital discussed by Western economists, even when this is directly related to the topic in hand (see, Drake, 1982; Coghlan, 1981; Tobin, 1961; Gurley and Shaw, 1990; and McKinnon, 1973). In his *Capital*, Karl Marx addresses 'the transformation of money and capital' and gives 'the general formula for capital' using exchange cycle of  $M-C-M'$ , where  $M' > M$  and the increment provides value and surplus value which, according to him (Marx, 1957, Vol. 1, Pt. 2, Ch. 4), originates from labour power. In such a treatment the main concern is circulating capital, which falls outside the concept we are discussing here. Had there been a satisfactory discussion of the firm as a legal entity, Jean Robinson might not have despaired of the task of answering the question as to the 'meaning' of capital rather than its measurement. Coase (1937) approaches the problem from an angle different from ours in this paper. Another approach is to consider a firm as a compound, just like natural compounds, made up of wills and wishes and enabled by laws and regulations. The wills and wishes of shareholders enter into a unique entity called the 'firm', with a distinct 'legal personality', which affects and is affected by the society. The multiplicity of constituents' (shareholders') desires and wishes dissolve and transform into the unity of the compound. The common goals of the constituents attain a new form and identity, even though the plurality of shareholders does not convert into a unity — they still preserve other legal and real aspects of their own. The reduction and dissolution of the shareholders' wills and wishes into the unique legal 'person' of the firm is also the cause of the transformation of money into capital. The question is how does that transformation happen and how does it function?

Before presenting our model, we need to make some preliminary remarks, which are simple but have important consequences. We start with a table illustrating factor shares of income conventionally used in textbooks. An amended version of such a table is shown below. The amendment is made on the grounds that interest is return to money, specifically debt, whether used for investment or not. However, in the conventional presentation, interest is return to *capital*. This has, probably, been one reason why some economists such as Cassel (1957: 49) assert that 'capital produces the interest'. It is not hard to grasp that in reality owners of capital receive profits and owners of money interest.

**Table 1: Amended Shares of Factors of Production in Capitalism**

<b>Factor of Production</b>	<b>Share</b>
1. Labour + Entrepreneur	Wage
2. Capital	Profit
3. Land	Rent
4. Money	Interest
<b>Total</b>	<b>GNP</b>

In this amended table of the distribution of income, money is not only presented as one ‘factor’ of production, in order to make the picture complete, it is also presented at the same level as other factors of production. This is a fallacy. Nowhere in economic theory can one find any legitimate justification for considering money as capital. The proper distinction between money and capital is central to any economic system; it is real and determinant in that the development of an economy is geared to the quantity as well as the quality of *capital*, not money. No single evidence shows otherwise. The argument presented here, as the amended table (Table 1) indicates, shows that ‘interest’ does not have any place in a coherent and sound economic system and represents what can be called as ‘prime fallacy.’ Interest is, undoubtedly, an artificial social convention, which has been overlaid on money and the universally accepted functions it serves. This becomes clearer still if all the real factors of production, including ‘qualified’ labour, land, and capital, are considered as the wealth of a nation, but money is not —as aptly expressed by Adam Smith.

From the standpoint of accounting principles, any sum of money coming into a firm should be entered under the proper heading — sales, loan, equity-capital, gift, *etc.* There are many other accounting habits and concepts that economists need to be acquainted with and learn to deploy. A secondary aim of this paper is to reconcile certain terms in economics as closely as possible with those of accounting. Holding the discipline aloof from accounting terms and developing new terms alien to accounting has not brought any real good for economists. To my surprise, economists have developed several terms, different in connotation from accounting counterparts, while at the same time basing their analyses on the statements that accountants produce with the terms commonly used in accounting. Cost and capital are the two obvious ones. In profit and loss statements prepared by accountants, all costs are of historical nature; however, due to the prevalence of inflation all over the world, accountants have taken into

consideration this universal disequilibrium phenomenon and have re-assessed some items in the balance sheet and sometimes also a few items in profit and loss statements. Economists emphasize opportunity (or 'replacement') costs instead of historical costs. No need to mention that 'cost' here has different meanings for accountants and economists. In important cases, economists, unlike accountants, make up terms disconnected from reality. But then, if economists are right to make up their own terms, they should amend their statements according to their terms and produce an 'economic' balance sheet, an 'economic' profit and loss statement, and the like.

But the evidence is that economists have never attempted to make such amendments but have used the same statements produced by accountants, intact, and made policy recommendations based on these statements. Another important issue is the fact that corporate taxes are based and received on accounting, rather than on economics, principles. Let us ask one of the most important and fundamental questions in this respect: does an economy evolve around accounting or economics principles? Thousands of managers owning their stores ignore the rent that they could have collected if the stores had been rented. They do not customarily add the opportunity cost of their stores on top of other costs and shift it to the customers.

Returning to Table 1, let us consider again the distinction between money and capital. Under certain legal obligations, firms keep records on the basis of accounting rather than economics principles. Artificially and without legal authority to place rules and definitions on firms, which play so important a role in an economy, only takes us away from real world problems. It may even make many of our efforts merely abstract and consequently reduce the other, essential and valuable parts of economics to an academic practice with no relevance to realities. In fact, with the appropriate modifications, nothing is more practical than economics. One way, if not the only way, to make economics more practical than it now is, is to seek some reconciliation between economics and other branches of social science. Not only do we not gain much by isolating some economic concepts from their counterparts in other disciplines but also we lose practicality in these respects. To make economics more sensible than it is now and better understood by students we must strive to bridge the existing gaps between some economics terms and those shared by other related branches of studies such as management, accounting, finance, law, and the like.

A close look at the differences that exist between money and capital shows that they, in fact usually, spring from ideas New Institutional

economists have put forward. This can be accomplished by considering their characteristics as follows:

$M : \{(1) L=100\%; (2) V>1; (3) MC=0; (4) d=0; (5) \sigma=0; (6) R=r\}$

$K : \{(1) L<100\%; (2) V=1; (3) MC>0; (4) d>0; (5) \sigma>0; (6) R=\rho\}$

where  $L$  is liquidity;  $V$  is velocity;  $MC$  stands for marginal cost;  $d$  represents depreciation;  $R$  stands for return;  $\sigma$  is risk;  $r$  is the rate of interest; and  $\rho$  is the rate of profit

Two observations follow from the above sketch: (1) there are no similarities whatsoever between money ( $M$ ) and capital ( $K$ ), and (2) all the differences stem from legal aspects of money and capital. It is the institution of the firm, which has the task of transforming money to capital. As it stands, interest (rate) cannot be derived from capital (stock). This distinction is fundamental to our understanding of capital theory.

The mechanism that transforms money into capital can be visualized as:

$$M \Phi L \rightarrow K$$

where  $\Phi$  stands for 'legal combination' and  $L$  for labour. It should be read: 'as soon as a sum of money (potential capital,  $M$ ) is legally combined with a factor of production most likely labour ( $L$ ), it changes its legal aspect to actual capital.' Failure to distinguish between money and capital, and calling capital 'a sum of money' without any qualification, has been the source of many misconceptions. In the macroeconomic formulation of the 'equation of exchange' associated with the Cambridge School, national income and money are two stocks related as:  $M=kY$  whereas in the neoclassical model, the velocity of money,  $V$ , serves the function of converting the money stock into a flow in:  $MV=Y$ . It seems, though, that the attempt to make the equation dimensionally valid does not necessarily make money identical with capital with dual characteristics — one capital as stock and the other investment as flow.

Money with all the importance attached to it (*i.e.*, being potential capital besides its fundamental functions in Islamic economics) is discussed differently in other social sciences. Its peculiarity does not make it something that ordinary logic can reject it. If some economists understand money in Table 1 to be 'circulating capital', again it does not give money a character different from capital in accounting language. The origin of some items on the asset side of a balance sheet goes back to the capital initially intended to be put in investment projects. They include cash, bank account, accounts

receivable, equipment and machinery, building, storage rooms, inventory... etc. As it stands, economists have to accept all items of the balance sheets prepared by accountants if they take seriously their responsibility for both making economics a practicable science and policy recommendations.

Let us go back again to Table 1. Almost all Western economists believe that capital stands in the same relation to interest as labour does to wages. Besides undermining the place of labour – human beings – they mostly seem to have forgotten where interest has come from. It essentially originates in the money market whose main and ultimate determinant is speculative demand for money – to recall Hicks' strong assertion that "The demand for money itself is necessarily always speculative in a wide sense" (1968: 56). The money rate of interest is the outcome of speculation on money. Tobin (1958: 65-66) distinguishes two possible sources of liquidity preference (certainly for speculative purposes), while recognizing that they are not mutually exclusive: "The first is inelasticity of expectations of future interest rates. The second is uncertainty about the future of interest rates".

Some monetary economists have tried to distinguish short-term from long-term interest rates without taking the trouble to go through the details. Nevertheless, the fact is that the long-term is the envelope of the short-term interest rates and that speculative demand for money, which is a short-term phenomenon, determines short-term interest rates. Debt-capital, which is one standard method of financing some or all investment expenditures, is long-term in nature, but it seems borrowers have to borrow at the 'going' rate of interest, normally determined in the money market. It is not feasible to talk about two different money markets based on term structure, one for short-term loans, which are basically for speculative purposes and the other for long-term purposes to supply debt-capital. This kind of treatment, if plausible, should be capable of being generalized to cover prices of all durable goods. In reality long-term prices are based on short-term prices; so too, our long-term income depends on our short-term income. This was probably the reason Hicks (1968: 165-166) assumed that one-period interest rates are determined in a general equilibrium framework in which either a long- or a short-term rate, but not both, are included. Additionally, Lutz (1940), in his paper on the term structure, after laying out quite carefully the assumptions needed to validate the expectations hypothesis, concludes that:

- (i) The long-term rate is the average of future short-term rates;
- (ii) The long-term rate can never fluctuate as widely as the short-term rate;

- (iii) It is possible that the long-term rate moves contrariwise to the short-term rate.

Although two interest rates are distinguished in capitalism, one short-term and the other long-term, they are of the same nature albeit of different magnitudes. The same is true for money; money is money, we do not have different monies. Special care has to be taken here not to confuse our main concern about 'money' with other types of money that some economists like Tullock (1975) talk about. The type of 'money' we are mainly concerned with in this paper is the type that, "in and of itself, is an almost perfect expression of a large externality" (Tullock, 1975: 491), whose perfect manifestation is 'paper money'. We also understand the assertion made by Keynes (1964: 222-223) that for every 'durable commodity' there can be a rate of interest in terms of itself, but our focus is on the 'paper-money rate of interest'.

Now that we have exposed the confusion around the concept of capital and money, a quick review of the rate of interest, as return to money, and rate of profit, as return to capital, and comparison of their impacts on economic activity, should be instructive (see Appendix A).

### **2.1. A Note on Speculation and on Demand for Money in an Islamic Economy**

Infuriatingly bizarre terms like "loans with equity features" (Khan and Mirakhor, 1987: 169) have appeared in the Islamic economics literature. It should be clear that 'loan' and 'equity' are not only of two different legal natures but also very different in economic consequences. The fact that such confusion passes unnoticed and unchallenged in the most frequently cited papers is worrying. There is an urgent need, given the growth in the literature on as well as the practice of Islamic banking both in Muslim and non-Muslim countries to re-examine these two most important economic concepts, namely money and capital, whose different legal aspects and economic consequences place them under two different contracts.

As it can be understood, the 'many objectionable features of capitalism' stem from the fact that the monetary sector is independent of the real sector and gives rise to the instability acknowledged by many master economists. The failure to integrate the monetary sector in the real sector has severely impaired many economies of the world. Specifically, integrating financing into the real economy must be understood as the most urgent task for Muslim economists if they are serious about seeking a sound, self-

correcting, and dynamic Islamic economic system. This task, if successfully carried out, will make both money and Islamic banking endogenous. My hope for this paper is that it will help standardize both the connotation and the operation of money and capital in the literature, and thereby integrate money in capital theory. To the extent that my effort succeeds it may, in due course, carry the basic concepts in Islamic banking into the mainstream.<sup>2</sup>

From the discussion so far, it is obvious that there is no need to emphasize that, given the abolition of interest and consequently of its immediate derivative, speculation, studying demand for money in an Islamic economy adds nothing to our understanding. Ignoring the mutual relationship between interest rate and speculation led the classical economists to believe that the money is for transactions and nothing else, such as speculation. Keynes later discovered its destructive role. Although the classical economists' ignorance about speculation may be attributable to its unimportance in their day, our deliberate ignorance is due to the strict abolition of interest in Islam. I firmly believe that this prohibition is, by no means, limited to money because the effects of speculation are all the same. Money, copper, wheat, or even steel plant, can be and are all speculated upon.

It seems to be an absolute error not to condemn speculative demand for money in an Islamic framework. For those writers like Khan and Mirakhor (1987), who might have a problem agreeing with that, it should suffice them to ask why Keynes (1964) asserted that there would be as many rates of interest as there are durable goods in an economy. Due to its being in the infancy of its development, such mistakes in Islamic banking can have many evil consequences. Khan, in another study with the assistance of Mirakhor, tried to develop an IS-LM curve based on Islamic interest-free banking without any justification as to its appropriateness or relevance. By re-labelling 'real rate of interest' as 'real rate of return', Khan (1987: 26) describe the model as "a dynamic variant of the standard IS-LM model and no special factors have had to be introduced up to now". In conclusion, he breezily avers that:

In many ways the lack of understanding and confusion that exists about Islamic economics can be attributed to the virtual absence of formal descriptions of the theory underlying the proposed system (Khan, 1987: 31).

Perhaps Khan (1987) still thinks that he has successfully complemented and filled the gap of 'the lack of understanding and confusion' that existed in Islamic banking. He may not realize that instead of solving some problems he has, unintentionally no doubt, not only not solved any problem, he has added new problems. He further adds: "...this model does provide a reasonable portrayal of the types of Islamic banking systems that have been put into practice in certain countries" Khan (1987: 31). There is need here for a short digression. Labour in this system does not receive the reward it deserves. It is under-paid. Profit maximization necessitates the lowest possible wage rate for labour. Profits and wages in capitalism naturally move in opposite directions. It is not clear how equity, one of the promises of capitalism, could be preserved in such a system. Additionally, labour is not in a place it deserves if we believe that it is both the producer and the consumer of the goods and services produced in an economy. This is what we mean by independency of demand and supply in a conventional capitalist system. It is not hard to demonstrate that justice, on the part of labour, is achievable through co-operation between labour and the capitalist. On the other hand, money, in this system, accrued in the past, does not deserve any reward if regarded merely as potential capital. However, as soon as it changes its legal nature and is released/risked to become actual capital it does deserve its own proper reward. This is precisely the main topic of this paper.

As has been stated, there is much confusion surrounding money and capital. One of them has been made by Cassel (1957: 49), when he explicitly concludes, after some discussion, that 'the capital produces the interest'. No one has ever cast doubts about the productivity of capital. His argument for interest mainly rests, in fact, on the productivity of capital. It is the speculation with money rather than capital that produces interest in capitalist economies. Cassel, among others, failed to distinguish how and under what circumstances money and capital work.<sup>3</sup> He further states (Cassel, 1957: 46) that the value of capital is the rate of interest. He appears not to have realized that capital has the value it has based upon its productivity, which is independent of the rate of interest. He seems to try to show that interest is a real phenomenon, while ignoring its origin, speculation.

There are other economists who try, by linking interest with money, to prove the 'fertility' of money. Still others take the vague view that money is barren (sterile). Indeed, the potency or impotency of money is not realized before it is legally combined with factors of production. But money is not naturally impotent; in fact, every penny, any time and anywhere, has the

potentiality to become potent. It is the type of economic system that keeps part of the potential capital away from factors of production (via production function) and makes it impotent. Impotent money held in a money whirlpool produces a lot of economic problems. That money whirlpool is the effect of interest (rate). Some of the money in that whirlpool may find its way into the production function and so discover its potency. But the money, as in the capitalist system, that does not so link up with factors of production, remains impotent. For centuries, humankind has greatly suffered from holding money in that impotent state. Paying interest on loans, as a legal obligation on the borrower, does not make money potent. For that matter, bankruptcy of a firm does not prove impotency of money used as capital; it has to do with market structure and conditions other than potency of money. We must look for an economic system within which there are mechanisms to make all the money available potent. Elimination of interest makes it possible both to put money next to factors of production and, through the production function, make it 'fertile'. That part of money, which in the capitalist system, never comes out of the speculative whirlpool, is not merely impotent, it inflicts the greatest harm on the society in the form of unemployment, inflation, inequitable distribution of wealth, business cycles, and stagflation. To understand this better, the nature of speculation is needed to be explored in a rather detailed manner.

The term speculation is used in this paper to mean any action, which, for the benefit of very few and to the detriment of the general public, alters the normal course of events in a money economy to make it an unsound and unhealthy economy. Unhealthy events are those, which, sooner or later, bring about instability and the crises of confidence, which afflict the economy. So long as it is open to individuals to speculate on stocks, the alternative of purchasing stocks as one of their asset items cannot be rendered sufficiently attractive. Speculation harms public confidence because of the nature of speculators' expectations about the future course of the rate of interest. Speculators normally earn income by attempting to 'buy cheap and sell dear'. 'Speculation' is used here not with the meaning it has in ordinary usage, but basically the way Keynes (1964) used it in his *General Theory*. To be specific, almost all transactions in stock markets involving exchange of stocks whose prices are market-based are speculation. The exception is the exchange of stocks issued by firms and sold in the market for the first time, the primary market, and subsequently when stock prices closely match the real value of the firm and not the market value of

the stocks. The prices at which stocks are normally exchanged far exceed their real value due to bubbles. The real value of stocks is the real value of the assets of the stock-issuing firm. On such a distinction, ordinary stock markets, that are functioning as secondary markets are, as I understand it, money markets; the primary markets devoid of the bubbles due to speculation are capital markets. Capital markets are essential and necessary for any economic system, Islamic or otherwise.

The money market emerging from speculation in the secondary market needs justification. In the secondary markets transactions are reduced in fact to  $M(1)-C-M(2)$ , where  $M$  stands for money and  $C$  for commodity, here stock, and  $M(2) > M(1)$ . In this process, stock plays the role of collateral in exchange of money for money because the two parties do not know each other. The transaction is of a lending-borrowing nature, 'as if' the holder of  $C$  needs money and demands it and the buyer of  $C$  is there to lend money in exchange for stock. This process takes place over a short period of time. The lender and borrower, both speculators, enter into such transactions with the intention of reversing their positions, in many instances over the course of the same day. In this very short period of time, 'speculation' about the changes in the future rate of interest changes the market value of the stock, while leaving the asset value of the issuing firm totally untouched. The money rate of interest of the magnitude  $M(2)-M(1)/M(1)$  emerges from such speculative actions. Keynes' essential critique of the classical economists centres on the fact that the rate of interest causes speculation. If my argument is persuasive, we can conclude that the rate of interest is both the necessary and sufficient condition for speculation. Given that  $\Delta K=I$  primary (stock) markets operate, nowadays, in effect, like highly developed money markets in that the time period between transactions on the same stock is so short that it does not allow any change in the stock of capital, or assets for that matter, to take place.

The word 'capital' as used in textbooks implies a long-term commitment on the part of the lender and a long-term need for the funds on the part of the borrower. The money market is a market for short-term (less than one year) loans (Luckett, 1984: 147 and 154). The naive distinction, in which the capital market is distinguished from the money market according to time period of the loan, is one of the many sources of confusion. It is very hard to pinpoint when and how such misunderstandings have originated. In the money market, the time period is too short to allow any addition to be made in capital or, for that matter, assets of a firm. Although speculation literally

reduces to an exchange of money for money, it must not be confused with trade for reasons that are beyond the scope of this paper.

What should worry us most about speculation is the instability it introduces into the economic system. The notion ‘that speculation – if mistaken – tends ultimately to be self-correcting in any commodity market’ is not well-founded: “Keynes [...] recognized [...] that the self-correcting mechanism is either absent or very slow and painful in the case of the interest rate” (Ackley, 1969: 177). One can then argue that if inconsistency exists in the classical model between saving and investment functions, the former being primarily a function of income and the latter a function of the rate of interest, the rate of interest would fall toward zero, except to the extent that the speculative demand for money cushions its fall. This combined with a relation, attributed to Wicksell (1935), to which we will soon return, means in many instances that there exists a saving gap, *i.e.*  $S > I$ , in turn meaning that the real cause of unemployment is the speculative demand for money. This is the kind of instability speculation brings about and it should worry us. The manipulated ‘price’ emerging from speculative activities, quite often, far exceeds the real value of stocks, does not contribute any extra value whatever to the assets or capital of the issuing firm. The difference in value is nothing but bubbles, which have frequently burst in the past and no doubt will again.

How important is the foregoing discussion for an Islamic framework? Given that speculators are aware of the bubbles in the market price of stocks, special attention must be given to avoiding any activity that involves encouraging interest (rate) to develop. A digression is necessary here to clarify what I understand the prohibition of *ribā* to be prohibiting. I am convinced that the prohibition of interest does not apply exclusively to interest on money but to all kinds of interest in relation to any durable commodity since ‘for every durable commodity we have a rate of interest in terms of itself’. Also, it is not only professional speculators who do transactions on the stock market. Ordinary people also do so. We need to provide them with full information about what they are really buying. They have a right to be informed about what they, in fact, take ownership of when buying stocks at their market prices. To protect the general public, bubbles must not be allowed to develop. Prices of stocks supplied in the primary markets must be kept as close as possible to their real values. To ensure that buyers are not cheated, we need to make the necessary information available through whatever channels are effective. Ample evidences can be found that a sound

Islamic Bazaar can be effective in this regard. Bazaars are still active in many Islamic countries where buyers have access to information regarding the prices and qualities of different products. The functioning of these Bazaars has attracted the attention of some location theorists on efficiency grounds and they have made some recommendations (Greenhurt, 1975).

A sound, closely supervised stock market would prevent a money market developing from the conventional stock market. As a result, a capital market, as defined above, would take its place. Islamic economics, by abolishing interest, clears the fog in one stroke. Deprived of the option of interest, finance can only look for profit that originates in the real sector of the economy. The integration of the real and financial sectors leaves no room to grow for the money market and its chief pastime, speculation.

Real investment expenditures have their own attractiveness. As mentioned earlier, statistics show that the rate of profit for the G7 countries, combined and for each individually, has been much higher than the long-term rate of interest, without exception, for twenty-nine years consecutively (Ciocca and Nardozi, 1996: 167-168). The internal rate of return (*IRR*), the essential criterion for selecting capital investment, would undoubtedly have been even higher than the long-term rate of interest. Neoclassical theory holds that the relationship between the rate of profit on productive capital and the real rate of interest on money is based on investment. Investment is increased by high rates of expected return on speculative demand for money. The resulting pressure on available resources cause real interest rates to rise, with the cost of these high rates being passed on to the consumers of the community. By 'profits' is meant the gross trading profits of privately owned industrial and commercial companies. That is, in capitalism, profits are measured gross of interest payments, taxation, and depreciation provisions, but net of non-trading income such as interest on financial assets owned by the companies (Wood, 1975: 1-2). In an Islamic setting all interest charges vanish. We retain the capitalist assumption that the chief objective of the typical firm is to expand its productive capacity, which requires investment in fixed assets, and that the amount of profits that the firm sets out to earn is determined by the amount of investment that it plans to undertake. Unlike the position held by neoclassical theory, that the firm is willing and able to finance by borrowing any investment project, there would be no borrowing on interest in our model. While we rule out some Neoclassical assumptions we hold on to others, among them certainty, but not with the same meaning. It is well understood that investment expenditure projects inherently and

inevitably carry risk: reality is too complex to guarantee certainty, so one anticipates 'natural risk'. However, we need not incorporate the uncertainty and instability, the artificial risk, that result from speculation in stock markets. Rather, we need to reduce any such artificial risk, whose distribution is unknown (uncertainty is the better term), to the minimum level. Then, it is the rate of profit (which has its own distribution) whose mathematical expectation plays the central role in investment decision-making.

Recalling Wicksell's formulation (1935) about the interdependencies of money ( $M$ ), saving ( $S$ ), investment ( $I$ ), and hoarding ( $H$ ) — as the first approximation of liquidity preference — later put forward by Keynes, which looks like this:

$$S+DH+\Delta M=I; DH=-H$$

where  $DH$  stands for dishoarding by assuming  $\Delta M=0$ ; since  $H>0 \rightarrow S>I$ , and naturally unemployment will then occur.

In order to have full employment, money must go directly to the production process. In that way, almost all the ills of capitalism can be removed. This is the type of radical surgery capitalism needs. To put it bluntly, interest really is the root of all economic evils.

The most capitalism is able to do is to deploy monetary and/or fiscal policies either to boost aggregate demand or aggregate supply. It has proven unable to boost both simultaneously. Capitalism needs to go through a thorough surgical operation in order to enable a system that will enable it to boost aggregate demand and aggregate supply simultaneously. Weitzman's (1984) suggestion for defeating stagflation — to follow the Japanese type of labour remuneration alien to capitalism, is not a remedy but only a palliative. My own investigation of the problem suggests that no one suggestion will succeed unless the cancer cells, *i.e.* interest and speculation, are removed from capitalism. In the surgical operation, we would be able not only to make the economy a healthy one with built-in self-regulating and self-adjusting elements but also a system that guarantees sustained growth. This will partly save economics from its dismal state. Recall what Adam Smith (1937, Vol. 1: 5) in his *The Wealth of Nations* states that: "When the stocks of many rich merchants are turned into the same trade their mutual competition naturally tends to lower its profits; and when there is a like increase of stock in all the different trades carried on in the same society, the same competition must produce the same effect in them all".

Again, it was Smith who first took the essential step of disentangling the long-lasting confusion between money and capital. The sum of money supplied to benefit from interest in the money market may, or may not at all, go into the 'venture' of investment. In fact, the investor seeks to maximize his/her profits or (to be more precise) internal rate of return, which is totally separate from the rate of interest, according to the way interest is customarily treated in relation to the internal rate of return on any investment project. It is for the proponents of interest to explain why interest exists in the absence of inflation and risk, in the first place. An investor works within the legal framework of the 'firm', which enables production. That is essentially and totally different and separate from 'buying and selling money' as if money were a private good—with the important difference that the former has all the social benefits attached to it but the latter produces harm to the society. In defending earlier economists, Cassel (1957: 24), like others, confused the concepts of profits and interest by observing that: "It would be misleading to suppose that the earlier economists did not understand the difference between business profits in general and that part of them, which is properly interest on capital..."

Profits are not subdivided into interest and profits of enterprise as Cassel (1957: 24-29) mistakenly asserts, who further observes, Smith (1937: Vol. 1: 9) tells us expressly that, in his time, double interest was considered a fair rate of profit. Let us make it clear. Take a simple example where an entrepreneur uses only two factors of production: capital ( $K$ ) and labour ( $L$ ). He borrows the sum of money, at the going rate of interest ( $r$ ), necessary to undertake a business venture and pays the labour its going wage rate, ( $W$ ). Assume, additionally, that interest charges, ( $r.K$ ), as well as wage bill, ( $W.L$ ), are paid after the product is sold out and from the total revenue ( $TR$ ). Obviously, the entrepreneur's reward is not  $TR$ , but  $TR - r.K - W.L$ , that is the correct definition of profits ( $\pi$ ). Self-evidently profits are exclusive of both interest charges and wage bill. What an entrepreneur earns and puts into his/her pocket, in a tax-free system, is his/her own reward to which no one else can have any claim whatever. It is hard to understand why this should present any sort of difficulty to anyone. One is reminded of the observation made by Hazlitt (1988: 1) that "economics is haunted by more fallacies than any other study known to man".

Either the proposition really is hard to understand, or there is a pretence that it is. If the former, it would not be hard to make it understandable, but if the latter, one is bound to think that there is something wrong with capitalism

that people are trying to keep hidden. This was probably the reason Alan Greenspan, the former Chairman of the Federal Reserve Board, stated, in April 1998, that “it has become increasingly difficult for policy-makers who wish to practice, as they put it, a more ‘caring’ capitalism, to realize the full potential of their economies”. Joan Robinson (1951-1980, Vol. 2: 17) said it more forcefully and bluntly: “The purpose of studying economics is not to acquire a set of ready-made answers to economic questions, but to learn to avoid being deceived by economists”.

Another common confusion is to use the term ‘capitalist’ for the moneylender who does not have anything to do with providing capital because she/he has no part in the establishment of the firm, by which alone money is transformed into capital. An entrepreneur by taking the risk of investment becomes eligible to earn profits; there is no reason for the moneylender to ask any portion of that profit unless she/he is also sharing the risk in the same way as the entrepreneur is. The existence of profit does not, on any objective ground, justify payment of interest. That has not stopped some economists, like Samuelson (1964: 583-584), from concocting a normative argument, namely fairness. This kind of reasoning hardly belongs in a discipline that claims to be positivist; and its understanding of what constitutes fairness could only fit the capitalist school of thought.

Would-be moneylenders who have money but are averse to risk and so cannot be motivated to lend except by interest could, when interest-free banking is properly introduced and established, be hedged against any risk. There are no objective reasons for clinging on to the institution of interest; rather, as we have argued, interest and speculation are at the root of the ‘objectionable features of capitalism’ Keynes was so concerned by, and the root of many problems and fallacies — in economic practice and the literature discussing that practice. In another futile attempt Cassel (1957: 31), like many, if not all, Western economists, tries somehow to make some connection, however artificial, between the rate of interest and productivity of capital, the origin of which goes back to the Bohm-Bawerk era. At one point Cassel (1957) sums up the results of the discussion between Ricardo and Malthus, in the following three points

- (i) Interest is determined by the principles of supply and demand;
- (ii) The supply [of capital] is regulated by the tendency of accumulation to diminish when the rate of interest diminishes, and
- (iii) The demand [for capital] is regulated by the tendency of the natural productivity of land to diminish when the population increases.

The last two, according to Cassel (1957) would have been good starting points for further investigations into the forces operating on the supply and demand of capital. We need to construct the theory of the firm in a different context incorporating the missing elements. Mukherji (1984) in an excellent effort tried to utilize Wood's (1975) framework to develop a theory of the firm in such a system. Wood's pioneering book has been rightly praised as "...fill[ing] a major gap in economics by providing a new theory of what determines the profit margin of the individual company and the share of the profits in national income. It is inconsistent with existing theories of profits, but it is consistent with most empirical studies of company behaviour".<sup>4</sup> Harcourt's (1982) outstanding attempt to utilize accountants' way of dealing with the finance problems of companies ought not to be omitted from the list of those rare economists who have tried to reconcile some principles of economics with those of accounting. Harcourt's work undoubtedly adds further insights to Wood's on the behaviour of firms. Economists can surely learn a great deal by theorizing their models with accounting type analyses. Many losses have been suffered as a result of ignoring and/or under-valuing the efforts of Wood (1975) and Harcourt (1972 and 1982).<sup>5</sup> It was Irving Fisher (1965) who took the first step toward co-ordinating the work of economists and accountants in a book much admired by Pareto. Schumpeter (1994: 872), recognizing it as the first economic theory of accounting, said it should become the basis of modern income analysis.

Nevertheless, the fact remains that no rational justification for the necessity of interest has been offered. Robinson (1979: 76) accepting the belief widely held among Western economists that capital is 'a sum of money', asked whether  $K$ , quantity of capital, was supposed to be a sum of money or a list of machines. An eminent authority, aware of the 'defective methodology' in economics, and the first and probably the best economist ever to name the 'defective' areas in economics, Robinson unfortunately failed either to correct the defectives or to incorporate the corrections in a coherent analytical method. Instead, she ended up by following in line with the very mainstream of thought she had raised objections about. Quoting the familiar saying, "A man of words but not of deeds is like a garden full of weeds", she commented: "This is sadly true of the theory of capital" (Robinson, 1979: 81).

## **2.2. Supply of Money Unidentified**

It will be instructive at this point to go back in economic history and reflect briefly on the validity and effectiveness of monetary policies essentially

based on 'the supply of money'. Let us start from the capitalist premise that the important variable for determining the level of employment and the rate of change of the price level is the state of aggregate demand. The Radcliffe Committee was appointed by Britain's Chancellor of the Exchequer in May 1957 'to inquire into the working of the monetary and credit system and to make recommendations'. The Committee investigated the way in which money was supposed (according to the prevailing monetary theory) to influence that variable. This led inevitably to a consideration of the direct and indirect impact of money on economic activity. It was argued that in a highly developed financial system with many financial intermediaries, grave theoretical difficulties were posed in identifying or labelling some quantity as 'the supply of money'. The inference is frequently made that the Committee itself did not or could not define the supply of money for England. At various places in the Report of the Committee the words 'supply of money' are placed in quotation marks followed by phrases like, "however that is defined" or "whatever that may be made to mean", giving rise to the inference that the quantity could not be defined.

A subsequent paper by Sayers, one of the Committee members and widely believed to have provided the theoretical substructure for the Radcliffe monetary theory, raises the issue whether money can in fact be defined. We read: "The difficulty of identification has derived from the two-fold nature of money...as a medium of exchange and as a store of value..." (Sayers, 1960: 710). Makinen (1977) does not agree with the problem as posed, but that does not mean that the problem has been dealt with satisfactorily in some other way.

If money is indefinable or includes a broad category of 'assets', it may be impossible to discuss the monetary policy actions of central banks, or the monetary policy tools to achieve stability objectives, which centre on commercial banks, may be inadequate and require supplementation. Additionally, if money can not be defined, monetary policy is impossible, or depending on how money is defined, radically different theories may be advanced concerning the way in which money influences economic activity.

It can be argued that the level of employment and the rate of change of the price level are more closely linked with the rate of transformation of money to capital than only to the supply of money, however that is defined. Abolition of interest and of its derivative, speculation, closes the gap between money as potential capital and actual capital. It also provides a

simple way of defining money exclusively as the medium of exchange with the potentiality of becoming actual capital.

Economic growth is closely geared to the amount of capital incorporated with other factors of production but not to the amount of money as such. Consider this analogy: gasoline is used in automobiles to move people from one point to another; it needs to be properly placed in a suitable environment, the 'internal combustion engine', before it can do that work of moving people. The demand for gas is directly geared to the number and capacity of 'engines' properly placed in cars. Millions of barrels of gasoline might be available and yet people wait in long lines waiting to be moved. Those lines of people cannot be reduced until the engines are supplied that use the gasoline. In the same way, it is the 'institution' of the firm that is able to transform money (potential capital) into actual capital. This leads us to the very important question, 'What role, if any, does money play in the process of economic growth?'. Do we develop a 'better' theory of long-term economic growth on the basis of an expansion of the stock of money or of the stock of capital? Another, related, question is: 'How much money of the available stock undergoes the legal process to become capital?'. By allowing speculation to take place, be it on money or stocks, what goes into the speculation whirlpool does not do any good to the society, but harm, unless diverted into the institution of firms using other factors of production co-operating with actual capital. The production capacity of a firm hinges directly on the value of its assets. At the aggregate level it is the value of the assets of the firms existing at any given moment, which determines the production capacity of a country, not the supply of money. Furthermore, the higher the ability of a country to transform money into capital the greater would be the rate of economic growth, and, the higher the speed of this transformation the greater the ability to absorb unemployed labour. This transformation, obviously, takes time and effort. It is in this sense, as I understand, that time is generally believed to be the essence of capital and not of money. Capital, in a firm, is locked-in for an unspecified period of time for as long as the firm can survive in the industry. Unlike capital, money is perfectly liquid, implying that it can change place very fast. If time is not allowed to be sufficiently long, capital cannot generate output; hence no profits.

The essential ingredient of capital is time. Capital does spring from time via money. In other words, capital and time are closely associated. However, we need not go all the way with the Austrians and accept that capital is time. To close the gap between stock of money, paid as the remuneration of factors

of production, serving as the medium of exchange, and actual capital have sometimes been recommended by imposing high taxes on so-called 'capital gains'. Whether such recommendations would guarantee full employment is dubious. In an Islamic framework abolition of interest and of speculation on any durable goods is a powerful tool to achieve this important goal. In general equilibrium analysis more attention has to be paid to capital and its return as profit than is customarily done. The theory of capital can be treated as an extension of static equilibrium theory to take account of time. Technical progress and economic growth take place in time and are closely related to capital, not to money. Production is possible without money, as can be imagined in a barter system, but not without capital. This statement is not to be taken as belittling the importance of money in a money-based economy. Money has the potentiality to be converted into capital. In a money market, time, however short, produces the rate of interest; in a capital market it produces rate of profit, or internal rate of return (IRR), separate from the rate of interest.

The amount of capital, or assets, using our upcoming terminology, is much easier for authorities to measure than to measure the stock of money, as was made clear by the Radcliffe Report. Firms are required, by laws and regulations, to provide tax authorities with their annual financial statements, namely, balance sheets and profit and loss statements. The amount of capital, which according to our discussion is closely tied with fixed assets, net of depreciation, can easily be measured using these statements. It does not need to be loosely and unsatisfactorily defined and estimated. The market price of stocks centres on the going, as well as expectations about the future, rate of interest, and it sets the boundary around which interest rate would fluctuate. This process can go on until bubbles burst and for as long as the issuing firm is in existence.

By abolishing interest and integrating money in capital theory an interdependent market system will develop which is, let me admit it, likely to be a very complicated construction, in which all the most important specifications will normally play a part in influencing economic activity. But simple answers to complex problems are not always the best answers. The type of economic system that would thereby develop will be a different and much more complicated one than has ever been analyzed. Nevertheless, we are led to conclude that it will surely reward our effort with higher economic growth and less (if any) instability. It will surely produce new problems, but problems are always there to be solved.

### III. Extended Model

The previous discussion attempts to extend the conventional theory of the firm, in which the legal dimension of the firm is left out. It is not possible, it seems to me, to theorize a purely technical relation between output and capital while omitting the legality dimension. In this section, we put back in the legal and another aspect of the firm in order to make the model more realistic. In so doing we go back to some basic accounting terms. This is appropriate because the question has to do with the balance sheet of a firm. Balance sheets are identities, which always and everywhere bring about equality between capital ( $K$ ) and debts ( $D$ ) on one side and assets ( $A$ ) on the other, that is  $A \equiv K + D$ . It is understood, that the asset of a running firm is always greater than capital in value, or given that  $D > 0$ , it follows that  $A > K$ . Schematically:

Balance Sheet

Assets	Liabilities
Fixed Assets	Capital
Variable Assets	Debts
Total Assets ( $A$ ) $\equiv$ Capital ( $K$ ) + Debts ( $D$ )	

Managers of firms are judged by the records of their actions based on their own responsibilities towards the shareholders. They are accountable for their acts, as they have been legally delegated the authority to run the business.

Their responsibility to the shareholders is not restricted only to earning ever-increasing rate of profit based on the commonly used meaning of 'capital' of the firm. Using economic terms, capital in this sense, mostly, refers to a set of machines. Rate of profit (the ratio of profits to capital), though a useful measure in its own right, as a measure to evaluate the performance of the management can be misleading for two reasons. (a) A set of machines with no other facilities cannot provide an environment suitable for labour to work. (b) As said above, the asset value of firms is normally greater than their capital. Using the ratio of profits to assets (fixed and net of depreciation) provides us with a better and more realistic measure for evaluating management performance than rate of profit. The reason for this is that management has under its control all the assets of the firm to do its

job. Although this new ratio, for the reason given, would normally be less than the previous one, it is more compatible with realities. This argument emphasizes that the responsibilities of management go far beyond the shares of the shareholders. In our extended model it is the value, arrangements and the types of the assets of the firm which form the environment in which the labour works, not just capital, usually defined as sets of machines or 'a sum of money.'

In an Islamic framework where PLS contract is used, as soon as the contract is signed with an Islamic bank both capital and asset values of the firm increases by the same amount. Hence, our model extends to cover such situations. Furthermore, even in the debt-capital case it adds the debt value of the borrowing firm with the same impact on its assets, in line with the fundamental principles of accounting. Machinery, tools, and other equipments constitute only a fraction of the total assets of a firm. To make economic theories more consonant with real life, economists need to make it clear what they mean by 'capital' of a firm. Does 'capital' to an economist mean the liability of the institution of the firm (a legal entity) to its owners (real entities) or to the market value of the firm? What will happen to the rest of the 'capital' defined as the difference between total assets and debts? Does this discrepancy or does it not contribute to the production of commodity? Are they redundant? If yes, what is the logic behind purchasing them in the first place?

Answers to the questions just raised, and many others, show that items other than those related to the initial capital put into a firm have their own contributions in producing output; however important, they are not accounted for by economists. Profit maximization prevents any expenditure unless the benefit outweighs the cost.

The proper measure to use for the production function can be written in the form:

$$Q=f(A, L)$$

where  $Q$  stands for output,  $A$  for assets, and  $L$  for labour. This formulation encompasses some properties peculiar to itself, and different from the conventional production function in that:

- (i) All asset items such as machines, land, buildings, warehouses, and others, are put together as one inclusive item with their own productivities being accounted in the process of production.

- (ii) Integration of all asset items means that their contributions to producing output, contrary to the usual method, are dependent on each other.
- (iii) Most important of all, it is the value, arrangements, and the types of assets that not only make the production function,  $f$ , meaningful but also transform the legal aspect of the institution of firm into its technical aspects. We have tried so far to come close to some accounting terms and use their treatment of capital and assets in the balance sheet. We can make further use of them and redefine investment ( $I$ ) as any positive change in the value of net fixed assets ( $A$ ), (hereafter, just assets unless otherwise specified). That is:  $I = \Delta A$

### 3.1. Is there any significance attached to our formulation?

In this new formulation, as stated before, the contribution of every factor of production is measured in conjunction with others, and dependently upon them. This brings us closer to real life in which assets without labour have no meaning and vice versa. This necessitates a co-operation that develops between asset owners and labour. The synergy produced as the result of such co-operation benefits both shareholders and labour. In a simplified case, labour has dual character; *i.e.* it supplies labour to the firm in order to produce goods and at the same time demands goods produced in the economy. This makes for a mutual interdependency between aggregate demand and aggregate supply and brings about a self-adjusting and self-correcting mechanism. In other words, any deficiency in aggregate demand is easily compensated. This property brings the system closer to real life and its underlying assumptions are consonant with the teachings of Islam.

The traditional treatment that assumes that the interests of labour are independent of those of shareholders, and so pays labour marginal product value, not only increases the cost of production but also makes labour indifferent to the fate of the firm it works for. This might have been one reason why economists suggested efficiency wage with limited advantage and, subsequently, inclined them to adopt the Japanese way of labour remuneration, however alien to American capitalism (Weitzman, 1984). The sub-title of Weitzman's book is instructive: 'Conquering Stagflation', which carries the message that there are factors in capitalism that naturally produce stagflation. As I understand it, the origin of stagflation must be sought in interest and its derivatives, which necessarily, but illogically, separate the monetary sector from the real sector of the economy. If I am

right in identifying the problem in this way, then integration in capital theory becomes necessary. Another important feature relates to the way an iso-quant map is constructed. Instead of using a vague meaning of capital in conjunction with labour to construct such a map, on the basis of only technicalities of the production function, our proposal shows that

- (i) Both legality and technicality of the production function combined will produce iso-quant, and
- (ii) The environment that labour works in is provided for by the value, arrangement, and the types of assets in a legally established firm. The complementarity of labour and assets becomes self evident, whereas their being substitutes in the traditional treatment is far from reality.

Aggregation is another unsettled issue in the case of heterogeneous capital. The vagueness has two origins. One is related to the meaning of capital and the other is that the aggregate of something is itself not well defined. Obviously there are numerous types of heterogeneous capital in an economy, but we can classify them using our suggestion about replacing assets for capital. In other words, we try to classify the firms rather than machines. The number of firms and the types of products they produce is manageable as opposed to the number of machines. The legality of firms combined with their technicalities will help us here for classification. We put firms that produce similar products into one category. In this way, we reduce numerous heterogeneous capitals to a manageable number of the products they produce, which will definitely be much smaller. Let us take an example. As mentioned before, it is the value, arrangement, and types of assets that produce the environment necessary for labour to be used effectively. If we let Q (1) stand for, say, television, Q (2) for automobile, Q (3) for furniture, Q (4) for textile, and so on, disregarding the range of goods produced in each category, we can write them as sequence:

$$\begin{aligned}
 Q (1) &= f [A (1), L (1)] \\
 Q (2) &= f [A (2), L (2)] \\
 &\dots\dots\dots \\
 Q (n) &= f [A (n), L (n)]
 \end{aligned}$$

Using this method millions of heterogeneous capitals would reduce to, say, thousands of firms producing similar products. This usually happens in economic analysis going from firm to industry, but it carries with it the vague

concept of capital at the firm level. The method suggested here has another advantage also, with respect to the labour force. Instead of considering different individual labour force in each firm, they can be considered on the basis of their specialities that will usually be useful in many firms producing like products. Aggregation in this case will become easier for both firms and workforce. There may be thousands of unused machines and millions of unemployed workforce; the only way to put them to work is to provide legally suitable environments with, of course, reasonable economic incentives. Money, similarly, needs legal environment combined with profit incentive in order to be converted into capital.

A useful analogy is the population of a country. It would be extremely hard to work with the millions of different people living in the country. However, classification of population by gender, age group, level of education, and other similar attributes, greatly reduces the complexities involved.

Working with aggregate data in the conventional way requires collecting information about the capital stock of the country. Efforts are put in to estimate that stock. As mentioned earlier, all firms are mandated to report their balance sheets as well as their profit and loss statements to the tax authorities. Tax authorities, without any futile effort to estimate stock of capital, can provide actual value of assets reported in these formal statements with high degree of confidence. Although, accounting methods adopted by different firms vary, some restricted criteria are available to reduce the variations. In any case, there is no claim in this paper that all the problems involved in capital theory are solved, only that we have taken the problems at least one step forward to a satisfactory solution. Accounting is one form of institution around which many decisions, particularly economic, take place. Our solution has taken this institution seriously by incorporating some terms from this academic discipline into practical economic analysis. The importance of this area of human knowledge cannot be overstated. There are lots more that can be learnt from the accounting profession that will help us understand economic life.

#### **IV. Implications of the Model**

“Milton Friedman argued in 1969 that zero nominal (interest) rates are necessary for efficient resource allocation. This study shows that they are not only necessary but sufficient” (Cole and Kocherlakota, 1998).

This section sets out, in the form of a summary list, the main implications of the foregoing argument. The list is neither comprehensive nor ordered by priority or importance.

(i) Any positive change in the value of firms' assets, defined as investment, will (instead of market values) provide a realistic measure to properly evaluate shares in an Islamic stock market. Given accurately reported financial statements, this measure prevents bubbles arising as in the conventional stock markets, which results from speculative activities and which produces interest of their own. In conformity with Islamic teachings, this allows the buyers who, relatively to the sellers, quite often, have less information access to complete information.

(ii) Unlike capitalism in which boosting the economy starts with changing money supply, ( $\Delta M$ ), in order to stimulate output, ( $\Delta Q > 0$ ), which proves exogeneity of money, endogeneity of money in the Islamic system reverses the path; *i.e.*:

$\Delta M \rightarrow \Delta Q$  (via change in interest rate): Capitalistic system

$\Delta Q \rightarrow \Delta M$  (via  $M \Phi L \rightarrow$  actual capital): Islamic system

(iii) Endogeneity of money in Islam makes it neutral as opposed to its being non-neutral in capitalism.

(iv) Abolition of interest, which makes both money market and speculation non-existent, allows us to concentrate on only three markets; namely labour, capital (here meaning the firm's assets), and commodity, for which general equilibrium framework can be constructed.

(v) Prohibition of *ribā* (interest) totally changes Islamic banks from being monetary institutions, as is the case in capitalism, to financial institutions. Naturally, monetary policy tools have limited, or even no, application in this setting. Financial sector, therefore, becomes an integral part of the economic system as opposed to the monetary sector being independent of the real sector, in capitalism. This is essentially different from discretionary changes in the rate of interest, which is nothing but intervention in the market, something that capitalism puts so much emphasis on not doing.

(vi) Using internal rate of return (*IRR*) and comparing the *IRR* of different projects makes all the parameters of the system endogenous.

(vii) The importance of the above arguments lies in the fact that, in an Islamic state, as soon as a need to hire unemployed labour appears, this goal can most likely be achieved by printing money and transforming it into 'assets' to be used in conjunction with labour.

(viii) It may come as a surprise to some scholars that, in an Islamic economy, required reserve ratio (*RRR*) needs not be kept, which means that it could safely come down to zero. This results from money being an endogenous variable in this system; again fundamentally different from capitalism.

(ix) Given that speculative demand for money is basically absent in an Islamic system, underlying every demand and supply in the real sector there exists a corresponding supply and demand for money for transaction activities of equal value. That is, transactions demand for money is not independent of changes in the real sector. Whenever there is a shift in aggregate demand function there will be a concomitant shift in the transactions demand schedule. This precludes the system being dichotomized into monetary and real sectors.

(x) Labour works in an environment produced by the value, arrangement, and the type of assets in such a way that neither is able to function without the other. In other words, since production is a collective action income also has to be collective. This implies that productivity of labour cannot be treated independently from that of capital (in our terminology, assets). This certainly provides appropriate rights for the labour force that supplies its labour to produce and also demands what it produces.

(xi) Any search for a model appropriate to a modern Western economy, devoid of serious objectionable features, which would allow for an analysis of accumulation of capital (or, rather, assets), and of the distribution of the net product has to incorporate profits as 'the core of analysis'.

(xii) To shift our focus from the technicalities of production to also its legality, may, at first glance seem unimportant. In fact, it enables a new way of seeing, and opens up new dimensions in, almost all economic activities. As well as providing insight on the institution of firm, it can also be useful if extended to other activities undertaken by agents in society, such as marriage, labour-employer, tenant-landlord, *etc.* all of which are based on social contracts, formal or informal. All such contracts carry specific obligations towards all parties involved, necessary for modern economies to co-ordinate the multiplicity of complex activities. Gains are obtained

if benefits to parties are well defined, appreciated and internalized. Co-operation has proven to produce net gains greater than those of conflict.

(xiii) Social legal structure accommodates the relationships between agents in such a way that the better and more effective these structures the more advanced the society would be. One reason for the backwardness of some economies may be that their governments have failed to provide an environment with proper checks and balances combined with rewards and penalties. This gives a strong indicator as to where such societies should start from.

(xiv) This approach, some of whose implications have been mentioned, is useful for Islamic and capitalistic systems alike.

(xv) It not only puts labour and assets in their proper relations but also bridges the gap between production and consumption from which supply and demand are derived. That is, if production is a collective, collaborative action, which by definition it is, then income must be also. This implies a right for labour to share in the profits of the firm it puts its effort into. This builds into the system a stabilizing mechanism, which guarantees sustained growth. That, in turn, makes the system counter-cyclical through its ability to simultaneously boost both aggregate demand and aggregate supply.

(xvi) Labour, given a stake in the profits of the firm it works in, not only maximizes its productivity, it also reduces costs and therefore increases profits. This fits with the kind of system Islamic economics advocates, one in which co-operation plays a central role.

(xvii) The argument here presented about the theory of the firm fundamentally changes our previous understanding of it.

(xviii) The most important and immediate contribution of this paper is to make money in an Islamic framework an endogenously determined variable by integrating it in capital theory. That is, supply of money is determined on the basis of the availability of factors of production in the economy. Any advance in technology or know-how or development of skill or new resources discovered, which necessitates an increase in money supply, will signal the Islamic central bank to increase money supply, which it can do without fear about inflation. It is not hard to demonstrate that the system this paper envisages would be a counter-cyclical and stable system through providing the most reliable criterion for the optimum money supply – the long-lasting dilemma capitalism has not as yet produced any solution. It

also provides a way to integrate the financial (rather than monetary) sector in the real sector. This is quite different from the way money is treated in the other system in which money supply is an exogenous variable and, as such, monetary sector is treated independently from the real sector. This, as I understand, is the most vulnerable feature of capitalism which can be deduced from interest-bearing loans in the money market and its mutual interdependence with speculative demand for money.<sup>6</sup>

## NOTES

1. Interest being the reward for speculative demand for money does not necessarily rule out the possibility of money borrowed at interest being used for investment. In such a case, a surcharge is being levied on the 'capital' used as a factor of production, whereas in PLS no such surcharge burdens the enterprise.
2. The effort is bound to face several objections, all of which, let me say in advance, are welcome.
3. Discussion of the distinction between money and capital has yet to become part of economic analysis.
4. The publisher of the Cambridge University Press praised him in a statement in the flap cover of the book.
5. Disagreeing with some of their work, as has quite often been declared by professional economists, hardly justifies ignoring it altogether.
6. Further observations in regards to our basic model are recapitulated in Appendix B.

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## APPENDIX

### **Appendix A: Comparing the Rate of Interest and the Rate of Profit and their Impacts on Economic Activity**

#### **Characteristics of the rate of interest:**

1. It is produced in the institution of a 'loan', specifically in the money market in the broadest sense of that term, as developed in the paper.
2. It is both the cause and effect of speculation.
3. It is, being a monetary phenomenon, independent of the internal rate of return (IRR) of a capital investment project; hence the opportunity cost of capital.
4. Firms take it as an exogenous variable.
5. It is, like money, an artificial social convention and, unlike money, one that can be proven to be unnecessary and therefore safely eliminated from an economic system.
6. It makes full employment impossible by paving the road for speculation.
7. Eliminating it bridges the gap between saving and investment and makes full employment a realizable hope.
8. Its trend, on the expectations of the future rate of interest, adversely affects investment according to both classical economists and Keynes.
9. It produces instability due to speculation (Keynes' view).
10. It is a burden imposed upon all consumers while it benefits only a very few.
11. In making decision among alternative investment projects it works as the cut-off rate; in its absence projects compete with each other.

#### **Characteristics of the rate of profit:**

1. It is produced in the real sector in the institution of 'firms' and differs in magnitude from one firm to another.
2. It is the product of actual capital.
3. It is a variable endogenously determined within the real sector of the economy.
4. It is real, whether positive or negative; consequently, it cannot be eliminated from an economic system.
5. Its magnitude gives an incentive to investment and works in favour of full employment.
6. Its presence puts no burden on the consumers; consumers choose to contribute to its magnitude.

### **Appendix B: Recapitulated Observations Derived from the Paper**

1. In mainstream economic textbooks, money and capital markets are both treated as lending markets and distinguished by the duration of the loan period.
2. The legal properties of a loan preclude the lender from sharing with the borrower in the outcome of the money lent and allow the borrower to use the borrowed as s/he wishes. This means that loans do not have to be used in investment projects.

3. Failure to distinguish between legal aspects and functions of money and capital has become the source of many misunderstandings.
4. It is widely, and correctly, believed that interest and profits are returns to money and capital, respectively.
5. Interest is determined in the money market due to speculative demand and profit is determined in the real sector of the economy.
6. Historical evidence show that, contrary to the conventional wisdom, the rate of interest and the rate of profits, in developed countries, have never been equal in the long- run.
7. It is one thing to describe and define money; it is something else to define and make use of capital. Economics textbooks do not teach students how money transforms into capital. Economics students, instructed other areas related to economics such as business law, accounting, organization, and management, still know all too little about the actual behaviour of the firm. Some characteristics of *the institution of the firm* give us important clues. (a) Firms have two aspects, namely legal and technical, (b) legal aspects usually precede the technical, (c) both legal and technical aspects of the firm, in modern economies, allow firms to provide the 'environment' in which labour works and, hence, enjoy legal profits.
8. Contrary to the traditional treatment, transformation of money into capital, via the institution of the firm, is costly. When it is costly to transact, institutions matter; something essential but absent in the Neoclassical framework. Neoclassical economics further assumes no cost is involved between production and consumption period. As a result, commodities sell out at production costs, given the structure of the market. The allocative efficiency criterion is abused in such a framework. Some of the following statements, directly related to our main concern, have been borrowed from Douglas North (1992).
9. By institution we mean: the rules of the game, the humanly desired constraints that structure human interaction. They are made up of formal constraints (such as rules, laws, constitutions), informal constraints (such as norms of behaviour, conventions, self-imposed codes of conduct), and their enforcement characteristics.
10. Institutions are not created to be socially efficient; however, they are formed to reduce uncertainty in human exchange.
11. The institutional framework of a firm dictates the kinds of skills and knowledge perceived to have the maximum pay-offs.
12. Institutions extend economic theories by incorporating ideas and ideologies into the analysis. This allows us to compare different economic systems in a satisfactory fashion. The grand co-operative economic system of Islam, as I perceive it, perfectly fits into this kind of analysis.
13. Since the organizations, one kind of which is formal firms, owe their existence to the perpetuation of the institutional matrix, they will assure path dependence.
14. The ideal path dependence can be imagined every group of individuals is capable of striving and asking for it. Co-operation, not conflict, is a good example its fruits seldom experienced, which forms such a path.
15. The institution of the firm is the only transmission mechanism that makes it possible to transform money (potential capital) into actual capital.

16. The institution of the firm can be established with or without formalities. Conventions or mutually agreed-upon contracts might substitute for the formalities, as is often the case in small-scale activities.
17. Those who believe, whether explicitly or implicitly subscribing to Neoclassicism, that there is no distinction between 'a sum of money' and 'capital' are tacitly assuming that the transactions cost moving from 'a sum of money' to 'capital' is zero or non-existent. That is, as soon as 'a sum of money' is gathered, capital of equal amount is generated without elapse of time or any cost incurred. They further deal in a world of *instrumental rationality* where institutions are unnecessary (North, 1992). Of course, there is no implication that the consequent institutions are efficient; however necessary but neglected.
18. Neoclassical economists assume perfect information. However, we live in a world of incomplete information. Information not only is asymmetrically held by the parties to exchange but also is costly and not all individuals are prepared to pay for it. Obviously, those with high quality of information preserve a better position compared to others.
19. In the grand co-operative Islamic economic system, composed of many small co-operatives, it is assumed, by definition, that information is evenly distributed among co-operands in one co-operative with the result of producing positive synergy not only at micro but at macro level, too.
20. It is costly to go from money (medium of exchange with velocity greater than unity) to actual capital (with velocity equal to unity; at least in the short run).
21. The stock of means of production, the so-called 'capital goods', has been known to be an imprecise concept; the imprecision becomes even worse in a system where it is believed that 'capital produces the interest'. We need to free ourselves of imprecise, and sometimes irrelevant, concepts.
22. It is true that the finance to be invested is a definite sum of money, but that is not all that there is to it. The market value of capital goods, at its best and unambiguous definition, is 'a definite sum of money'. The principal question is how such 'a definite sum of money' becomes capital.
23. In cases where rate of interest is zero (prohibited as in Islam or otherwise), on grounds of the elimination of the money market and interest rate derivatives, it becomes mandatory to integrate money in capital theory.
24. PLS contract is the vehicle by which integration of money in capital is made possible in an Islamic setting.
25. As soon as the PLS contract is signed, capital and assets of the firm increase simultaneously by equal amount. Islamically established firms, based on the co-operation principle, will be able to enjoy equity-capital to finance their investment projects.
26. From the two most popular external finance sources available to traditional firms, namely debt-capital and equity-capital, only the latter is applicable to such firms and the former is prohibited on the grounds of being interest-oriented. It must be non-existent. Equity-capital (share) holder has his/her own privileges and obligations as opposed to the restricted so-called un-Islamic privilege of debt-capital.
27. There is no greater challenge facing today's Muslim scholars than incorporating fundamental principles of institutional economics that will fill in many of the gaps in the economic analysis both at micro and macro levels and provide us with a different approach to a better understanding of the real world consisting of positive transactions costs.