Islamic
Money & Banking

INTEGRATING MONEY IN CAPITAL THEORY

IRAJ TOUTOUNCHIAN

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In the name of Allah, the Compassionate, the Merciful

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Acknowledgments

Preface

The United States has established itself as the very symbol and embodiment of capitalism. In examining its performance, we are able to get an overall picture of what is happening elsewhere within the broader capitalist community. Of the many great economic losses experienced worldwide over the last hundred years, almost all have had their origins in the United States. The current global crisis is no exception. The 10 U.S. stock market crashes that have occurred over this period have ranged from 71 days in 1929 to 999 days in the period 2000–02. How long this current crisis will last is anybody's guess. Some economists believe that it is more severe than the Great Depression of 1929–32 and may take even longer to resolve.

Given the incredible developments that have taken place in the realm of the physical sciences in this time, it is surprising that no comparable progress has been made in the economic sphere. The advancement of knowledge is always expected to be on a rising slope, not downward. Given an identical distribution of talent and intelligence in both hard sciences and social sciences, the unequal advances in these two branches of science can be used as evidence that social science is more complex than physical science. This complexity arises from the human element, which plays the central role in the social sciences. Further, the evidence shows that marginal productivity of research in economics has been declining; especially in that which has been unduly blended with highly sophisticated mathematics, with little or no operational benefit. This is evidenced by stock market crashes, lopsided distribution of income and wealth, and global economic turbulence, which have scarred the economic landscape of the past century. The performance of this market has become the most suitable barometer of the merits of capitalism and such have been the catastrophic and all-embracing consequences of the current crisis that many exponents of the system are now beginning to doubt whether it can, or should, survive. Such doubts are only logical if humanitarian considerations are to enter the equation. In the zero-sum game of capitalism, someone's gain is someone else's loss. But, as will become clear in the pages of this book, the global consequences of capitalism have rarely found their way into the analyses of Western economists.

The earliest and the most fundamental alert came from Frederick Soddy and a few others thereafter, including Keynes in his *General Theory* (although from a different perspective).

To look for an answer to the question raised above requires a different look at the problem, and one which involves a much deeper look at the fundamentals of capitalism. One such fundamental goes back to the assumption of non-satiation, which in turn gives rise to unchecked greed. Greed in a zero-sum game means to legally put your hands on someone else's wealth. Greed has always been with mankind. Another basic principle of capitalism is self-interest, which is in harmony with the philosophy of individualism. Non-satiation, unchecked greed, and self-interest go hand in hand. If human nature is simply the combination of these elements and nothing else, the type of behavior commonly advocated and analyzed in capitalist text-books has been a great success. However, Muslims—and, indeed, many non-Muslims—have learned that human nature is much more than a simple synthesis of these three characteristics. Emphasizing these at the expense of human nature in its totality is dangerous, as this book will show. Love, empathy, altruism, cooperation, sacrifice, mutual concern, forgiveness, gratitude, virtue, benevolence and honesty are as much a part of human heritage as hatred, self-interest, apathy, revenge, vice, dishonesty or fraud. Throughout history, there has always been conflict between "good" and "bad" behavior, and the people who embody these characteristics are either admired or denounced according to the extent to which they make the world a better place to live in. At this point, the crucial question we should be examining is the role capitalism has played in this regard.

For Muslims, the ultimate source of religious belief is *The Holy Quran*—the words of Allah (SWT)[1] that benefit individuals, families and society at large.[2] The happiness and sustainability of society depend on there being a healthy and sustained economic system, one that produces and promotes the positive side of human behavior—individual and collective. The negative as well as the positive components of human nature are spelled out in the *Quran*. The texts below highlight just a few of these:

> Verily, man is given up to injustice and ingratitude. (*Quran* 14:34)
>> He (man) was indeed unjust and foolish. (*Quran* 33:72)
>> Most ungrateful is man. (*Quran* 17:67)

> ... man is given to hasty (deeds) (*Quran* 17:11)
> Verily Man is in loss (*Quran* 103:2)

However, those who have faith in Allah (SWT) and obey his teachings are given "for sustenance things, good and pure; and... special favors..." (*Quran* 17:70). Indeed, Man has been created "in the best of molds" (*Quran* 95:4), with the appropriate talents, strength, and virtue to undertake his responsibilities as "a vicegerent on earth" (*Quran* 2:30).

The complexities of human nature required guidelines and restrictions set down by the Creator of the universe. But the lessons to be learned from the Divine Laws go far beyond human nature. It is a matter of order and regularity: as it has been observed for centuries in the universe and the human body, so too should it be with socioeconomic affairs. Ignoring these rules and regulations has caused nations serious problems that could have been avoided.

For example, at the center of the Islamic economic system is cooperation within and among cooperative firms. Without the voluntary cooperative efforts of labor, maximum efficiency cannot be achieved. The well-established conflict between efficiency and equity in the capitalistic zero-sum game will be removed where laborers have a stake in the profits of the firm employing them. Cooperation which induces labor to maximize effort will increase the size of the pie, transforming the zero-sum game into an increasing-sum game and bringing new sources of satisfaction without having to resort to war or taking away material things from others.

As will become clear, Islamic banking is an integral part of a whole called "Islamic economics" and thus must be in complete harmony with the mother system to guarantee coherence and consistency. Any dissimilarity between factors of the sub-system and its mother system is subject to failure, as capitalism has demonstrated on many levels. For example, in consumer theory, students are taught that interpersonal comparison of utilities is not permissible. In public finance courses, however, they learn that taxing the rich and redistributing it among the poor allows just such a comparison to be made. This is a case where value judgments in the realm of welfare economics come into play; something denounced in consumer theory.

This does not imply, however, that without such an environment Islamic banking will fail. Rather, its full potential will only materialize if it takes a wider view. Neither does it imply that Islamic banking is

capable of implementation solely in the Muslim world. The message of Islam is universal. As long as the financial contracts are designed to incorporate Islamic guidelines and restrictions, the success of Islamic banking is guaranteed.

Just as capitalism requires its own underlying assumptions, Islamic banking will not produce its fruits in a vacuum. The best environments in which to launch Islamic banking are those of developed countries which have strong social capital. The varying degrees of success experienced to date within some Islamic countries are evidence of this claim and directly attributable to their weak social capital. In most of these cases, the rate of interest (*Riba*) in these countries is labeled "rate of profit," which is akin to having bacon wrapped in *Halal* meat. Such unethical practices, while apparently convincing to laymen, are unacceptable and can only lead to failure. It is for just such reasons that this book has been produced.

A truly Islamic economic system is the one that accommodates all positives. Its sustainability is guaranteed because it is compatible with human instincts; positives praised and developed and negatives denounced. Greed can be restricted either through legal measures and/or obedience to Quranic teachings. Further, cooperation moderates greed. This will further guarantee the universality of Islamic economic doctrine. A comparison with capitalism only serves to highlight capitalism's many pitfalls and its tendency to emphasize the negatives in human behavior. A viable economic system has to take all human characteristics into consideration because, ultimately, this is what Nature demands. Throughout history, human beings have paid an extraordinary price for neglecting the Divine Rules and Restrictions and following the defective, and sometimes misleading, findings of social-science researchers. This may be attributable to the fact the Divine Rules have been freely given and, as a result, their true values have not been appreciated.

Muslims believe that the Divine Rules are perfect and thus unchanging, created with man's well-being in mind. Thus, in this book, the Divine Rules are given the veto power, on the understanding that man-made rules cannot compete with them.

It helps to have a clear idea about the nature and scope of the positive and negative aspects of the two economic systems. The following tables summarize the arguments that will either appear in the text or will require further research.

Negatives of the Capitalist Economic System

1. Non-satiation: the primary assumption in utility theory
2. Denial of society: assumed in Pareto efficiency
3. No cooperation: due to both impossibility of comparison of utilities and fixed-wage payment to labor
4. Emphasis on self-interest to the neglect of other aspects of the complexities of human nature
5. Self-interest overwhelming social interest
6. Denial of externality, based on self-interest and impossibility of comparison of utilities
7. Equity, a second-hand argument with no guarantee of success
8. Conflict between efficiency and equity
9. Equilibrium guaranteed by efficiency but not optimality
10. Unchecked greed due to non-satiation and to denial of society
11. Zero-sum game as a result of no cooperation
12. Virtual wealth, resulting from non-satiation and greed
13. Endorsement of all kinds of risks, artificial or resulting from non-satiation
14. Positive interest rates in all markets: basically characterized by individualism
15. Scarcity of capital arising from positive nominal interest rates on money and the resulting speculative activities
16. Unemployment as a result of scarcity of capital
17. Inflation and business cycles arising from speculative activities and the inequitable distribution of income and wealth
18. Failure of "invisible hand" to direct each person to promote the benefit of all
19. Free market, resulting from mutual unconcern
20. Profit maximization, which means least remuneration possible given to the factors of production
21. Fixed-wage rate for labor determines the productivity of labor, rather than vice versa
22. Endorsement of speculative activities in all markets
23. Money treated as a private good, despite being an almost perfect expression of a large externality, and put in the hands of the private sector
24. Denial of public sector to a large extent
25. Wealth-based voting system

26. Given constant technology unethical actions such as aggression serve to increase social welfare
27. Either Aggregate Demand or Aggregate Supply can be increased, but not both at the same time
28. Interest (*Riba*) forces the monetary sector to be separated and treated independently from the real sector
29. Interest (*Riba*) and money market make money an exogenous variable with all the problems attached to it

Each of these features constitutes part of a long and unresolved problem.

Positives of the Islamic Economic System

1. Satiation checked via societal considerations
2. Existence of society as a top priority
3. Cooperation guarantees equity, to a large extent, via labor's share in profits
4. Social interest overwhelming private interest
5. Emphasis on human nature in all its complexity
6. Presence of all kinds of externalities on a large scale
7. Equity as the ultimate goal
8. Coexistence of equity and efficiency
9. Cooperation guarantees both efficiency and optimality
10. Greed held in check through cooperation
11. Increasing-sum game arising from cooperation
12. Denial of virtual wealth
13. Denial of any artificial risk; endorsement of all natural risks
14. Zero nominal interest rates in any market
15. Adequate capital arising from abolition of interest and from speculative activities
16. Full employment resulting from removal of restrictions on the supply of capital
17. Stable prices and sustained growth resulting from equitable distribution of income and wealth through cooperative enterprises and through abolition of interest (*Riba*) and of its derivatives
18. Cooperation provides a visible hand to promote the benefit of all
19. Managed market
20. Maximization of social welfare function as if labor force and the whole population matter

21. Labor's share in profits of cooperative firms leads to increased production and to an increasing-sum game
22. Denial of speculative activities in any market
23. Money endorsed as an ''impure public good'' and thus in the hands of the public sector
24. Emphasis on private–public partnerships
25. Knowledge-based voting system
26. Given constant technology, social welfare increases through cooperation between and among individuals and institutions.
27. Aggregate Demand and Aggregate Supply can simultaneously be increased; the importance of which cannot be exaggerated. This unique feature is absent in the proposed stimuli plans to combat the present global financial crisis
28. Monetary sector is not allowed to be treated independently and separated from the real sector
29. In the absence of interest (*Riba*) and of the money market money becomes an endogenous variable being determined from within the system

Each of these features constitutes part of an ultimate solution.

It has to be noted that greed being ''shrewd'' in nature has several origins that have to be tamed and checked in order to prevent further economic unrest. Fiat money is inherently a virtual phenomenon and one of the strongest factors in encouraging the kind of unchecked greed which played such a pivotal role in the recent global financial crisis in the form of virtual financial derivatives. It is imperative that this is revised so that it cannot happen again.

If all the positives of the Islamic economic system outlined above are correctly launched, they will provide the world with a new challenge and bring it to the zenith of prosperity. They will expand man's utility frontiers beyond those in effect and substantially increase social welfare. The sequential chain of events in both the monetary sector of the capitalist economy and in the financial sector of the Islamic economy are set out in the flow-charts overleaf.

The Islamic economic system might provide a slower rate of growth than that of capitalism but it will be steady. The capitalist system has had a bad record in producing economic turbulence that causes suffering for millions before it returns to its normal trend. It is a matter of choice whether rapid economic growth accompanied by severe cyclical movements and injustice is preferable to a slower but steady growth rate accompanied by equitable distribution of income

and wealth. To get some idea about the performance of Islamic banking within an Islamic economic system a software that can simulate the interactions between different components of the two economic systems using hypothetical data under exactly the same conditions for both is required.[3]

It would be unfair to ignore the sporadic attempts made by some master economists to overcome the pitfalls of capitalism. These attempts are basically centered on human nature with an eye to increasing the efficiency of the system. For example, in *The Theory of Moral Sentiments* (1759), Adam Smith developed his doctrine of sympathy, which was the conceptual antecedent of the doctrine of the natural order set out in *The Wealth of Nations* (1776). In the former, he "dealt at length with the ethical values of life... In turning his attention to examining the self-interested behavior of people engaged in market activity, Smith confronted the intellectual problem of reconciling the motive of self-love with the equally strong motive of sympathy for one's fellows" (Rima 1996: 83 and 87). In teaching moral philosophy, he followed the manner of his teacher, Francis Hutcheson, who classified his subject into four branches: natural theology, ethics, jurisprudence, and political economy (Ibid.: 83–92). He did not seem to mark the "natural selfishness" of rich landlords to be wholly pernicious:

> In spite of their natural selfishness and rapacity, though they mean only their own conveniency, though the sole end which they propose from the labors of all the thousands whom they employ be the gratification of their own vain and insatiable desires, they divide with the poor the produce of all their improvements. (Smith 1776, 1: 304–5)

He would have been unhappy seeing the way his followers, especially capitalists, have emphasized "self-interest" as if it is the ultimate incentive to run a successful economic system. He would have been even more unhappy to see the Gini coefficient of wealth in the world's largest economy at 0.82—approaching perfect inequality.

Very few Western economists have amended their views over self-interest, despite the fact that the actual behavior of ordinary people seems to be somewhat different from that propagated by capitalism. Among them, the Hirshleifers (1998) make some endeavor to analyze charity, and go on to cover the problem of conflict and cooperation.

Figure P.1 Chain of Events in the Monetary Sector of a Capitalist Economy

Professor Weitzman (1984) attempts to conquer stagflation by breaking the link between employment and the business cycle, arguing for an alternative labor payment system.

Professor Gorringe argues that the present global market system encourages greed, which destroys communities and damages the

Figure P.2 Chain of Events in the Monetary Sector of an Islamic Economy

planet, pointing out that: "The obsession with making money has obscured values... Justice in its broadest sense—fair shares for all—is eloquently held up as the prime virtue of human communities" (Gorringe 1999).

In 1998, in light of evidence showing widening income gaps in many parts of the world, the International Monetary Fund (IMF) posed the important question: Should equity be a goal of economic policy? (IMF 1998). In the age-old conflict between equity and growth, it found out that they can be complementary.

The IMF has taken another step toward reconciliation between public and private expenditures by proposing public–private partnerships. This proposal will remove the problem of the crowding-out effect.[4]

In his early work on game theory, Anatol Rapoport attempted to incorporate cooperation in his analysis, maintaining that "the

seemingly clear notion of rationality (in the context of strategic decisions) must be separated into individual and collective rationality if the paradoxes immanent in some nonzero-sum games are ever to be resolved."[5]

Applying the theoretical approach developed by Rapoport, Professor Weintraub showed how cooperation is possible to obviate the need for conflict and increase the utilities of the players (Weintraub 1975). Professor Collard took the theme of altruism a little further, exploring the impact of a phenomenon that surely constitutes one of the most powerful and long-neglected aspects of human motivation (Collard 1981). In doing so, said Professor Boulding, Collard "demonstrates the power of the method of economic theory to expand itself far beyond the absurdly unrealistic assumption of universal selfishness."

Most economics textbooks pay little or no heed to the role of ethics in economic theory, though the ties between economics and ethics go back to the origin of economics. Indeed, there was a time when economics, ethics, philosophy and history were seen to be established on common grounds and were thus taught together. The unhappy consequences of the subsequent divorce of these branches of human knowledge is perhaps attributable in no small way to Leon Walras (1834–1910), who "was faithfully following a tradition established by the 'philosophes' of eighteenth-century France who were... believers in the sovereign efficacy of systematized reason in coping with social and political problems."[6] Others have argued that Walras acquired his method of thought, not from the *philosophes* but natural scientists such as Galileo, Newton, Laplace, d'Alembert and Lagrange.[7] Whatever the origins of his thought, Walras was convinced that "economics, like astronomy and mechanics, is both an empirical and a rational science... The mathematical economics will rank with the mathematical sciences of astronomy and mechanics."[8]

The tools and methods of analysis for incorporating ethics in economics may be lacking at present but we have to develop them as an integral and inseparable part of humane economics. The complexities of human nature require more sophisticated tools than those currently in existence, as the likes of Farina *et al*. have argued.[9] Though we have a long way to go in establishing economics as a discipline where man matters, this is both necessary and possible.

As the *Quran* points out, "man is, in most things, contentious" (*Quran* 18:43), and it is for this reason that I am so insistent on the need to incorporate all aspects of human nature into economic science. That means reinstating such things as ethics, society, social

responsibility, cooperation, altruism, interpersonal comparison of utilities and externality into the system to make it a practical and humane science.

In Islamic economics, then, we denounce the importance that is commonly attached to the free-market system.[10] It is easy to show that under the conditions outlined above, the Grand Cooperative Islamic Economic System is full of externalities, defined as "those interrelationships in production, consumption and welfare which do not get reflected in market actions. But *it does not follow that wherever there is an externality, a social policy will have to be designed to modify allocation so that a Paretian optimum may be reached*" (Nath 1976: 88; original italics).

In answer to the Paretian value judgments—"(1) There is no 'society' above and beyond individuals. So, in making value judgments, we should only be interested in the welfare of individuals and nothing else; (2) Individuals are the best judges of their own welfare and choose what is best for themselves; (3) Social welfare can be said to have increased if at least one person's welfare has increased and no-one else's has fallen" (Connolly and Munro 1999: 32–3)—here we will confine ourselves solely to an Islamic interpretation. This book stresses the fact that society, though inseparable from the individuals of whom it is composed, is a separate entity and takes precedence over individuals in policy issues. Given the cooperation and externality associated with Islamic economics, both sides benefit in different stages of transfer up to a maximum, without society incurring any loss. In other words, in a capitalist zero-sum game Pareto optimality happens in the very first stage of transfer of goods and/or money. In cases where an interpersonal comparison of utilities is possible and an increasing-sum game persists, Pareto optimality happens in later stages of transfer.[11]

The important question of why we believe that interpersonal comparison of utilities is plausible in Islamic economics is still to be answered. The answer can be found in the *Holy Quran*:

> The most honored of you in the sight of God is [he who is]
> the most righteous of you. And God has full knowledge
> and is
> well acquainted [with all things]. (*Quran* 49:13)

Accordingly, it is neither our wealth nor property nor physical features that count when judged by Allah (SWT); rather, it is just

righteousness. Everybody has the right to have a good life, hope, and prosperity in his lifetime. Again, this is one of the issues most economic textbooks neglect except welfare economics, where it becomes integral to compare individuals' utilities. Why not do so from the start? Ignoring the comparability principle may make topics easier to handle but this comes at the cost of making economic theories impractical.[12]

Interpersonal comparison of utilities necessitates value judgments and, as Professor Nath showed, "Though value judgments are unavoidable in welfare economics, it is possible to try to present that any particular value judgments adopted are so 'widely acceptable,' 'general,' or 'minimal' that the welfare propositions based on them would be quite general, non-controversial, or 'more or less objective'" (Nath 1976: 2). When it comes to the highest extent of utility comparison, Pareto optimality is used. However, it has been demonstrated that "a Paretian optimum is not necessarily superior to any non-optimum" (Ibid.: 22).

Given that greed is within human nature, we might ask: Can Islamic economics provide a solution to check greed? The answer is "Yes" and the solution can be found in cooperation among individuals, be it in a firm or in an Islamic bank. As cooperation emerges in institutions and expands in cooperatives, increasing the number of individuals involved, with different magnitudes of greed, it will give rise to a normal distribution of greed. Given that votes are to be knowledge-based in Islamic economics, rather than on a per-capita basis, decisions are expected to be made according to the mean value of the distribution. Leaving aside the moderating impact of Islamic teachings on behavior, the mean value of greed is always less than its value at the extreme. This can be contrasted with corporations, where the greed of major stockholders plays the central role in decision-making processes without any conceivable measure to check it.

The above examples, together with others used in this book, can be used as evidence that capitalism lacks some important elements for a humane economy. Western economists allude to parts of human nature to explain, explicitly or otherwise, why a more viable economic system is needed. A more comprehensive and consistent system has to be offered to overcome the shortcomings of capitalism and to guarantee a promise for a better world. I hope that this book provides answers to some of the most-asked questions and dilemmas of the modern world; specifically, to the present global financial crisis which, history shows, may last for a long time and will undoubtedly happen again without a substantial realignment of our values. I further believe

that the humanitarian costs of the crisis can be avoided, or at least lessened.

This book does not claim to provide all the answers. Further research is required to show the number and types of markets we can have in the Grand Cooperative Islamic economic system. I believe that this book succeeds in integrating money in capital theory and that three interdependent markets—labor, capital and commodity—can interact with one another. Assuming that labor has a stake in the profit of the firms for which it works, it is then plausible to use the Alpha notation in the text to denote the Islamic bank's share of profit with respect to its capital share in the firm. The text demonstrates that capital investment is also a function of Alpha and, given this, the two markets, labor and capital, can be drawn as functions of Alpha. Further, production is also shown to be a function of this Alpha. Putting the three markets, with different slopes, in one diagram—with Alpha on the vertical axis and net national product (NNP) on the horizontal axis—will give us the general equilibrium solution in an Islamic framework. Such equilibrium coincides with the optimality criterion on the grounds that the social-welfare function takes on its maximum value, given that equitable distribution of income and wealth has been attained in Islamic cooperative enterprises.

Meanwhile, using Walras's law, even if only two of the three markets are in equilibrium, the third market will also always be in equilibrium.

Mankind's well-being has to be based on global responsibility and cooperation. It should provide benefit to all cooperating nations. If no action is taken to address the manifold deficiencies of the existing global zero-sum game, the universal gap between south and north will simply widen. It will take a global will to make the world a better place. The will has to be directed towards instituting an increasing-sum game in which underdeveloped and developed countries alike have an equitable share of life's rewards. Without this, the global financial crisis will become a global humanitarian crisis.

NOTES

1 When writing the name of God (Allah), Muslims often follow it with the abbreviation "SWT." These letters stand for the Arabic words *Subhanahu Wa Ta'ala*, or "Glory to Him, the Exalted." Muslims use these or similar words to glorify God when mentioning His name.

2 For an excellent collection of commentaries on the *Quran*, see *Noor Comprehensive Commentary*, Computer Research Center of Islamic Sciences, Iran (2005). More information can be obtained from: www.noorsoft.org and info@noorsoft.org.

 3 The author has encouraged his graduate students over the past several years to simulate the two systems using Matlab software for different topics, applying the same data in small scale. As will be seen in this book, some of the results are quite thought-provoking.

 4 This point has been demonstrated to be the case in Islamic banking, contrary to that in the conventional banking system: see Toutounchian 1995.

 5 Rapoport, A. 1966, *Two-Person Game Theory (The Essential Ideas)*, The University of Michigan Press, Ann Arbor.

 6 Jaffe, W. 1980, "Walras's Economics as Others See It," *Journal of Economic Literature*.

 7 See, for example, Michio Morishima's "The Good and Bad Uses of Mathematics" in Wiles and Routh 1984: 51–73.

 8 See Walras, L. 1954, *Elements of Pure Economics*: 47–8; Richard D. Irwin; Holmewood, Ill.

 9 Farina, F., Han, F. and Vannucci, S. (eds) 1996, *Ethics, Rationality, and Economic Behaviour*, Clarendon Press, Oxford.

10 The market system is not value-free. Its "underlying value system is rarely explicit, but logically it implies that balance and equilibrium are inherently good—otherwise, why arrange society to maximize them?", says Paul Treanor. He maintains an active website that follows his interests. See his article "The Ethics of the free-market: Why market liberalism is wrong" at http//web.inter.nl.net/users/Paul.Treanor/freemarket.html. He argues that "market liberalism is probably the most aggressive global ideology—more so than, for instance, Islamism. Very few Islamists have serious plans for the Islamization of the United States, but in contrast many Americans demand (and expect) a transformation of Islamic societies into liberal market democracies."

11 For proof of this point, see Toutounchian 1363 = 1984.

12 There may still be proponents of the two leading schools of thought in academic monetary-macroeconomic theory who think that their analyses are relevant to the real world. But the recent global crisis has proven the contrary, as Professor Tim Congdon has pointed out: "... academic monetary [-macroeconomic] theory has become so technical and abstruse, and so remote from day-to-day practicality that busy decision-makers in banking can safely ignore it." (See "Subprime Crisis? No Comment" in *The Banker*, January 2008: 80.) What is needed most in the realm of monetary-financial theory is a theory capable of coping with the present global financial crisis. It is imperative that such theories be both instinct-compatible and realistic. The existing literature is not capable of providing reasonable answers to resolve the crisis. Had there been such a solution it would have been used to prevent the turbulence currently besetting the global economy.

An Evaluation of Money: A New Perspective

COMMODITY MONEY

In this section, we go back to primitive societies. Let us immerse ourselves just for a moment or two in the archaeological record, and let us imagine different tribal peoples scattered seasonally on a plateau, each occupying a terrain of its own. Such imaginings are informative and relevant to our purpose here.

Following the period of pure self-sufficiency in such tribal societies, where there were no surplus commodities to trade, these peoples began to exchange commodities, a system known as a pure barter economy, where goods are directly exchanged for other goods. Obviously, that must have been what William Stanley Jones (1835–82) referred to as "a double coincidence of wants" so that a transaction was completed. The ratio of commodity A to B is said to be the exchange rate (or price). The simplest and most rational method which could have been used was that this ratio be determined on the basis of labor hours embodied in each exchangeable commodity (that is, the essence of the labor theory of value). If in such a society, there were only five commodities—A, B, C, D, and E—the number of imaginable transactions could be determined by the ratio:

$$N(N - 1)/2 = 5(5 - 1)/2 = 10 \qquad (1\text{-}1)$$

whose set is as follows:

$$\{A/A = 1, A/B, A/C, A/D, A/E; B/C, B/D, B/E; C/D, C/E; D/E\} \quad (1\text{-}2)$$

When the array of goods expands and gives rise to frequent trading with other tribes, the number of prices increases geometrically. If there were only 1,000 goods in the economy but there was no money (or

monetary unit) of accounting, people could exchange every good for the remaining 999 goods. Therefore:

$$\text{Exchange rates (prices)} = 1000(999)/2 = 499{,}500$$

We do not know for certain how long it took primitive societies to reach a higher state of economic well-being. However, it is reasonable to assume that there was a period in which one of the existing commodities was voluntarily chosen by a tribe as the unit of account, which can be called "commodity money." Thus, the individuals in this economy would be satisfied with only N − 1 rates of exchange, or, in this case, 999. Therefore, the use of "commodity money" would reduce the number of rates of exchange, in this instance to one five-hundredth, of what they would be without such a system. It is obvious that this reduction in the number of relative prices would make economic life less costly and would facilitate trade.

Typically, the commodity money used in such societies as a unit of account is the same as the medium of exchange.

Let us go back to our five goods: A, B, C, D, and E. If A was selected by the tribe as the medium of exchange, the exchange rates would reduce from:

$$N(N − 1)/2 = 10 \text{ to } N − 1 = 5 − 1 = 4 \text{ as:}$$

$$A/A = 1, B/A, C/A, D/A, E/A$$

where A/A = 1 is called the exchange rate of the medium of exchange with itself. It is easy to see that any exchange rate can be constructed as we wish. For example, the exchange rate of B with respect to E is:

$$(B/A)/E/A = B/E \qquad\qquad\qquad (1\text{-}3)$$

A remarkable point underlies the above ratio; that is, in the ratio B to E, the medium of exchange apparently disappears. Nonetheless, it remains there behind the scenes. Is it important to see the medium of exchange vanish from trade? We'll have more to say about this in the coming pages.

The different types of money[1] used in the early stages of economic life included iron, copper, corn, salt, whale teeth, tobacco, fish, feathers, snail shells, leather, gold, rice and cigarettes.[2] The types of

money used by a given society reflect, to a large extent, the technical ability of that society. This list reveals the broad range of human imagination and ingenuity.

As it concerns one single tribe, the commodity adopted as the medium of exchange is largely immaterial. However, as different tribes adopted different commodities as their own medium of exchange, there must have been a point in time when one common commodity was selected, by explicit or implicit consent, for several tribes. For our purposes, let's say it was salted fish. By furthering trade, this act must have enhanced the economic well-being of the member tribes who had just formed an economic union, so to speak. In order to distinguish the specific fish selected from other fish, let us say that the chief of the largest and most powerful tribe decides to brand the fish with his own seal. Thus, the processes undergone so far possess the following properties:

1. The fish, in itself, is a commodity which can easily be recognized by individual members of the tribes.
2. Some labor time has been spent on catching this fish, which is equivalent to that expended on catching similar fish. It is expected that its exchange value will be equal to the labor time necessary to catch the fish and nothing more. This is so because the tribesmen are unable to create a fiat medium of exchange; their mental ability does not go beyond a certain point whose limit is set by force and the necessities of their economic life.
3. The choice is made voluntarily and it is based upon an oral social contract; a conventional act.
4. An authority (in this case, the chief of the tribe) is delegated to brand the medium on behalf of the constituency he represents.
5. The fish cannot be used for consumption like other fish; otherwise it would contravene point number 3.
6. The fish chosen as the medium of exchange is voluntarily removed from the row of other goods. Unlike other goods that are eligible to enter directly into the utility function of consumers, the medium of exchange is prohibited entrance.
7. The fish cannot be "detained," so to speak, since it is agreed that it will have a velocity of circulation greater than unity (greater than one). This is contrary to other goods whose velocities are to be unity (that is, they change hands from the seller to the final consumer).

Now imagine that one or a few members of the tribes decide to "withhold" some of the chosen fish. The effect of this is to slow the pace of everyday transactions, and this artificial reduction in the supply of the medium of exchange means that the society concerned is worse-off than otherwise.

Let's assume that the community under consideration is composed of N traders. If the chief, on the basis of his own will or a social contract, decides that withholding "fish" is permissible, and one of the traders does so in order to get more by lending it, any surplus which that one individual receives as a result will have required $N - 1$ traders to work harder without this one person having to work any harder. In other words, $N - 1$ traders are implicitly exploited by one person. In addition, this one individual has extra command over commodities deriving from the loan period, compared to his own labor spent on catching fish.

This is a simple manifestation of how *Riba*[3] (interest) develops in a society. The argument developed through this example can be extended to present-day capitalistic societies and we'll have more to say in this regard later.

Returning to our example: before this one person decides to withhold some fish, transactions would take the form of Commodity–Money–Commodity (C–M–C); afterwards, it would become Money–Commodity–Money (M–C–M).

METALLIC MONEY

As societies advanced and were able to mine and process scarce metals like copper, gold and silver, they found out that these metals possessed the key properties of satisfactory commodity money, though different in some attributes. Gold and silver are durable metals and are recognizable by everyone. Though heavy, they are portable nonetheless. It is possible to measure their purity as metals, so they can be standardized by both weight and degree of purity. This, obviously, makes them risk-free to hold, especially when it was recognized that physical processes can render gold and silver completely divisible. As nations gradually developed and progressed, governments issued gold or silver coins as the formal medium of exchange. For this reason, they have been the predominant commodity monies since the onset of the Industrial Revolution.

For a period, the exchange value of gold and silver was equated to their metal content. There were two paths open to government

authorities regarding the metal content of gold and silver coins. One was to issue coins whose metallic value was higher than their exchange values, which left the way open for the general public to melt the metal, albeit illegally, and benefit from the difference between the two values. This would create instability and break the inherent social contract, written or unwritten. The second option was to issue coins whose exchange values exceeded those of their metal content. This option was historically adopted and practiced by governments that produced gold (or silver) coins and was termed "debasement."[4] An important point here is that this option enables the authorities (central banks) to produce, legally, the difference between the exchange value of "money" and its metallic content. In other words, this difference in value is one that is produced on the basis of people's confidence: that they can exchange the money issued by central banks for goods and services. In this case alone are the seven properties mentioned earlier still present and valid.

Even today, where almost all countries in the world use their own paper money, whose commodity value compared to their exchange value is negligible, none of the seven properties become invalid. We'll confine ourselves to fiat paper money, which is nowadays prevalent in monetary economies. It is rightly assumed that money does not depreciate physically,[5] making its replacement cost zero. More will be said about this later.

The above analysis can safely be extended to the Dinar and Dirham, the coins of the Early Islamic State,[6] without endangering the level of our generality. These coins also seem to have possessed the seven properties of money outlined earlier. However, there are some religious scholars (a minority, of course) who maintain that fiat paper monies currently in circulation are fundamentally different from the Dinar and Dirham: that they constitute a new "posterior reality" to which the rules and regulations that applied in the Early Islamic State are no longer applicable. In making this distinction (which is based solely on appearance), these scholars appear to be resorting to the use of "legitimate deception" (the opportunistic interpretation of religious texts) to bypass the penalty and punishment provisions against committing the great sin that underlies *Riba*. Therefore, the whole controversy centers on *Riba* and not on the money, per se. It should be noted that most religious scholars rightly believe that all religiously deceptive devices are anti-Islamic and thus *Haram* (forbidden).

Whether these scholars intended to make use of legitimate religious deception to evade the consequences of money-lending on interest should not concern us here. We can conclude, though, that no matter what kind of money we are concerned with—commodity money, gold, coin, metal fiat money, or simply the paper fiat money which lacks any backing—all seven properties outlined above are still valid.

A brief review of the evolution of money thus teaches us a very instructive point: money, in whatever form, is a derived product, which owes its origin to the existence of goods (and services). In other words, societies essentially started with goods and arrived at money, with the transactions taking the form C–M–C. This is, evidently, contrary to the beliefs held by many Western economists, who continue to strive to demonstrate that to enhance production of goods and services, it is necessary to start by manipulating interest rates, which they think serve as a stimulant to the economy, despite the inconclusive results in such economies.[7] Here, economy changes its nature from C–M–C to M–C–M, from which the money market and its derivatives emerge.

If we consider real commodities, actual labor and other factors of production embodied in them, we can think of money (that is, potential capital) in an Islamic setting as a mediator possessing the capacity to convert potential factors of production, in a specific production function having the form of actual capital, into real commodities. (We shall see that it is the value, type and the arrangement of assets which give economic sense to the production function.) This can be illustrated as follows:

Potential Factors of   Via
Production Other Than Capital ───────────→ Real Commodities
                                            (1) Actual Capital
                                            (2) Expected Profit
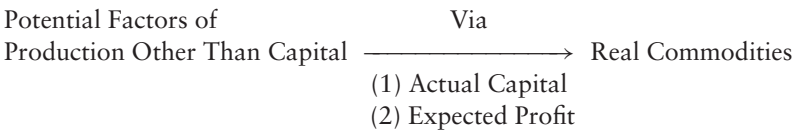
whereas the flow chart of a capitalist system would look something like this:

Potential Factors of   Via
Production Including Money Capital ──────────→ Real Commodities
                                            Interest Rate
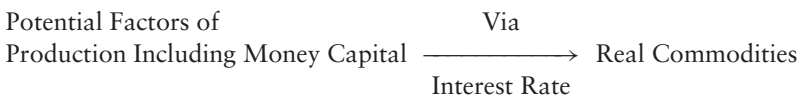
DINAR AND DIRHAM (D-D)

These two coins, the first in gold from the Roman Empire and the second in silver from the Persian Empire, were used as the medium of exchange in the Early Islamic State. The exchange ratio of the Dinar to the Dirham was originally 1:10 and then went up to 1:35.

While it may seem rather odd to be talking about coins that no longer exist, the relevance becomes clear as we go back to the religious verdicts on today's fiat paper money, which are centered around the following question: What are the similarities, if any, between D-D and paper money that extend the verdict on D-D to cover paper money? Whatever the answer to this question, it raises new and operational questions as to whether paper monies are subject to *Riba* or *Zakah*.[8] *Zakah* was levied on both Dinar and Dirham, making the question valid and requiring a proper answer.

Certain Pakistani religious scholars are of the opinion that paper monies perform the same functions nowadays as D-D did in the Early Islamic State. There are two reasons to believe that this is the case: (1) *Zakah* is currently collected from paper money, and (2) Pakistani economists have not addressed this point.[9]

While the question warrants further investigation, the nature of the present book does not allow investigation in depth and we therefore confine ourselves to scientifically blended religious verdicts. Religious scholars can be divided into three groups on this matter. At one extreme are those who believe that the fiat monies are totally different from D-D and therefore require a new verdict. At the other extreme are those of the view that the monies currently in circulation perform the exact functions as D-D and are thus subject to the same verdict. The third group move between the two extremes.

While admitting that the fiat paper monies are subject to *Zakah* and there is no need for a new verdict, the subscribers to this third group, surprisingly, change their position on *Riba*. To make their position clear for further analysis, Table 1.1 provides a summary of the group's views. First, though, a few remarks about the table are necessary:

- Each of the 13 cases is not necessarily the idea of one scholar; that is, one scholar may subscribe to two or more verdicts.

- One scholar may have contradictory verdicts as far as the economic consequences of the verdicts are concerned.
- One scholar's idea may correspond to another scholar's standing on one or more cases but oppose in other cases.
- A consistent and comprehensive verdict cannot be derived from 13 cases as outlined below.
- The verdicts are complex and do not allow separate references to be made for each case. However, readers are referred to a few scholars in specific endnotes.

Table 1.1 Religious verdicts on some controversial issues

No.	Subject	Purpose	Type of Action and Time Length	Verdict
1	Measurable & weighable	trade in excess	spot	*Haram*
2	Measurable & weighable	trade in excess	future	*Haram*
3	D-D	hoarding	less than a year	*Haram*
4	D-D	holding idle	more than a year	*Haram*
5	D-D	trade in excess	spot	*Haram*
6	D-D	melting	*Zakah* evasion	O.K.
7	D-D	trade in excess	loan	*Haram*
8	Paper money	trade in excess (as countable)	loan	O.K.
9	D-D	medium of exchange	being gold and silver	*Zakah*
10	Paper money	medium of exchange	convention	*Zakah* exempted
11	D-D	medium of exchange	convention	*Zakah*
12	Paper money	medium of exhange	convention	*Zakah*
13	Gold & silver items	asset items	holding as asset	*Zakah* exempted

As mentioned above, the first extreme group sees no similarities between D-D and paper money, and does not take a new position on fiat money.[10] From this, we may deduce that they hold the view that

Islamic injunctions and rules are not capable of providing answers to newly developed socioeconomic phenomena. Furthermore, such rulings, according to them, are basically restricted to a society as primitive as the early Islamic state of 1,400 years ago. The question as to how Muslims are to manage their everyday lives remains unanswered. Their response can further be interpreted as a belief that Islamic rules apply solely to personal worship and not to social and economic affairs.

Subscribers to the line of thinking promoted at the other extreme clearly believe that there is a clear distinction between D-D and paper money. This view is attested to by their verdict that today's paper monies are exempt from *Zakah* and that *Riba*-taking is permissible.

The important point here is whether *Zakah* is levied on D-D on account of it being the medium of exchange, or of it being gold and silver, or on both counts. According to the verdicts of Shia scholars, *Zakah* on D-D, after *Nisab*,[11] is compulsory. They go even further and make no objection to melting them in order to evade *Zakah*.[12] Thus, the verdict on *Zakah* seems to have been given not solely because of them being gold and silver (otherwise *Zakah* must have been levied on other gold and silver items, as well,) but also because they were a medium of exchange.

In the final analysis, we have to accept either the view that *Zakah* has been imposed on D-D on account of their being a medium of exchange or the opinion that it has been levied on them for being both a medium of exchange and gold-silver items, simultaneously. If we accept the first view, then *Zakah* should also apply to fiat money. This seems to be the dominant view among Sunni scholars. If the second view is adopted, which seems to be the prevalent view of Shia scholars, fiat (non-metallic) monies should be exempt from *Zakah*. For what it's worth, I have to confess I find it hard to see the economic logic of this latter view.

Then there is the question of whether *Zakah* was levied on D-D and whether both were subject to the *Riba* injunction as a result of them being measurable and weighable. It is obvious that each was countable and, in fact, there is written evidence to show that money was weighed in the Early Islamic State. The evidence suggests, too, that on large transactions, the nominal values marked on them were ignored as a result of both the extensive illiteracy that prevailed and of the relatively high transaction costs involved. What was important to them, it seems, was the metallic content embodied in the coins.[13]

Both Sunni and Shia scholars share this view. It is further obvious that *Zakah* was levied on the quantity and the weight of coins.[14]

Each one of the verdicts given in Table 1.1 is important and justifiable in its own right. However, the fact that some of them contradict each other should not worry us, given the lack of expertise in purely economic matters of the majority of religious scholars and the fact that some of the transactions covered (number 6, for example,) are no longer relevant in today's economic life.

It is the task of Muslim economists (as well as of interested non-Muslims) to build a consistent and comprehensive Islamic money economy that a) is based on and completely compatible with the Islamic world view and the spirit of *Shariah*, and b) seeks to maintain and sustain socioeconomic justice derived from Islamic teachings.

This does not by any means imply, however, that we should ignore religious verdicts; rather, we should have close cooperation with them. In cases where these scholars find it difficult to see the consequences of their personal verdicts, it is the task of Muslim economists to properly and honestly point out to them where the evils of a verdict may overwhelm the benefits.

In return, it is the responsibility of religious scholars to listen to such advice and to pronounce their verdicts on what is *Halal* (permissible under *Shariah*) and what is *Haram* in a spirit of mutual cooperation. In this regard, M. Bagher Sadre has made a very strong statement in taking the position that the sole purpose of *Halal* and *Haram* is to serve socioeconomic justice.[15]

Like the majority of Muslim economists, I firmly believe that Islamic rules and injunctions have both the validity and capability required to sustain a prosperous economic system, independent of any other rules and/or restrictions alien to that system. I would go even further by claiming that Islamic rules, restrictions and principles are more than sufficient to build such a system. To arrive at such a level of confidence requires a rather deep investigation into the *Quran* and the *Sunnah (Hadith)*.[16] Any opinion different from this has to do with our own limited understanding of Islam rather than with any deficiency in Islam itself.

WHAT IS (PAPER) MONEY?

In addition to both Friedman Rule (which says that zero nominal interest rates are necessary for efficient resource allocation) and Tullock's assertion that money is a public good, there are many other

reasons to believe that money cannot be considered as "goods" like those that quite often appear in utility functions.

It is necessary to categorize money in that this paves the way for further research as to its management, control and the responsibility it carries (that is, its functions). This is something that has long been neglected by Muslim economists. It has to be done once and for all. Since money may be categorized as either a private or a public good, it seems reasonable to list the properties of the two and then decide which of these properties could be unambiguously attributed to money.

At this point, let us go back to Say's law—attributed to Jean Baptist Say (1767–1832)—which says: supply creates its own demand. This law implies a denial of the possibility of unemployment equilibrium. Say further pointed out that money was merely a medium of exchange and had no utility of its own. Since, in his view, savings would always be offset by investment, and since hoarding would always be zero, aggregate demand would always suffice and over-saving was impossible (Say: 170–1 and 66–8). None of the earlier classical writers provided a logical and adequate proof of Say's law, nor did the orthodox neoclassical economists. However, Friedman's rule could be used in conjunction with Say's assertion that "money was merely a medium of exchange" in order to develop the necessary condition for this law to hold.

The shortcomings of Say's law are two-fold. On the one hand, he should have recognized that in the presence of interest, people would hold money for speculative purposes. He could not think of any demand for money other than transaction demand, which is why he thought hoarding to have always been zero. Where money is solely used as a medium of exchange in Say's framework, there will be (n − 1) equilibrium prices left to be determined. General equilibrium requires that all the (n − 1) number of excess demand (ED) equations be equal to zero; then:

$$\text{Demand for goods} \equiv \text{Supply of money}$$

Symbolically:

$$\sum_{i=1}^{n-1} P\,(i)D\,(i) \equiv S\,(n); \ i = 1, 2...n \tag{1-4}$$

The meaning of Say's identity is that the output marketed will be in equilibrium if, and only if, excess demand in the money market is zero.

In Walras's model, money plays the same role as any other goods. In his model, the total money value of all items supplied must equal the total money value of all items demanded. In algebraic notation, this is:

$$\sum_{i=1}^{n} P(i)D(i) \equiv \sum_{i=1}^{n} P(i)S(i) \qquad (1\text{-}5)$$

This identity is called Walras's Law. It is used to indicate that one of the general equilibrium equations is redundant. Thus, it permits us to drop any single equation of our choice. As aptly put by Professor Baumol (1965: 346), since Say's identity requires that the goods market, taken as a whole, must always be in equilibrium (total supply for all goods equals total demand), it follows from Walras's Law that the remaining market, the money market, must always be in equilibrium. (For further details, see Aschheim and Hsieh 1969: 33–8.)

The destructive significance of interest in an economy was not totally understood until Keynes introduced a new element to the literature of monetary theory: the so-called Liquidity Preference. In my view, Keynes is the economist who most thoroughly comprehended and analyzed the workings of capitalism. He knew about the psychology of people and incorporated it into his analysis. His command of the economic history of the West was admirable. As an economist, he was and is incomparable. His influence in economic thought is justly called the "Keynesian Revolution" and he undoubtedly earned the honors bestowed on him and the title of the "Einstein of Economic Science." In my view, it may take generations to fully appreciate what Keynes accomplished. Yet despite all his ingenuity, Keynes failed to realize that money could be something other than a "private good." Admittedly, his main concern was the diagnosis of the Great Depression of 1929–32 but his treatment was short-lived. However, his words reveal that he knew what course of action had to be taken: "If I am right in supposing it to be comparatively easy to make capital-goods so abundant that the marginal efficiency of capital is zero, this may be the most sensible way of gradually getting rid of many of the objectionable features of capitalism" (Keynes 1936: 221).

Had he lived longer, he might have been able to find a solution to "many of the objectionable features of capitalism." This was by no means beyond him, a fact to which his array of remarkable work

attests: *A Tract on Monetary Reform* (1923); *A Treatise on Money* (1930); and *The General Theory* (1936).

The store-of-value function of money entered into economic literature as a consequence of Keynes' discovery of "Liquidity Preference" (more will be said about this later). Rightly, but unfortunately, this function was interpreted to mean that money was to be seen as an asset. Thereafter, money was thought to be a "private good" whose price is the interest rate and determined in the money market. As we saw above, it also entered as an argument in the utility function! Whether all these apparent developments are legitimate or not is of concern to us here, especially in the absence of interest (rate).

We would do well to remember that money was originally invented to solve certain economic problems, such as increasing efficiency as society developed beyond the barter economy. However, the introduction of interest made it possible to engage in speculative activities and thus money itself became a whole new set of problems. The U.S. sub-prime crisis and its global ramifications are, in my view, just another manifestation of such problems and take their place alongside inflation, stagflation and unemployment, which all have their roots in interest. Indeed, the sub-prime crisis provides a very good example of the consequences of violating the Friedman Rule. The efficient allocation of resources would lead to stable prices, full employment, and the elimination of stagflation. However, the Friedman Rule is simply a solid theory. The development of Islamic banking along the lines advocated in this book will extend that rule and provide a practical and practicable model for combating these problems.

All in all, it seems that these problems won't be solved unless the nominal interest rate becomes zero and speculation, as the immediate derivative of interest, is removed from all durable goods markets. To this end, proper banking operations have to be developed. This book is an attempt to somehow provide this message in both banking practices and the types of contracts which have to replace interest-based loans of any kind in the hope that most, if not all, economic problems can be solved. Capitalism's promises—stable prices, full employment and sustained growth—have yet to materialize in any of the capitalist countries. It seems to me that the *prime fallacy* (that is, the interest (rate)) has generated further fallacies in the form of inflation, unemployment, inequitable distribution of income, and business cycles, to name but a few.

AN IMPURE PUBLIC GOOD

Though understanding money is central to monetary economics, there seem to be some characteristics of money which are quite often overlooked. This neglect has been the source of a great deal of confusion and misunderstanding. This is even more so where interest is totally prohibited in all transactions. The prohibition of interest has two-fold consequences: on the one hand, it makes the treatment of money easier than otherwise; on the other, it introduces new complexities into the system. Both of these consequences may, with more certainty, bring about necessary and sufficient conditions for efficient resource allocation. To accomplish this important though often-neglected task, we need to find out once and for all whether money possesses more of the characteristics of a private good or a public good. The most important properties of both private and (impure) public goods are summarized in Table 1.2.

The contents of Table 1.2 are self-explanatory in that all the materials can be found in textbooks. However, this table can be used to construct a more useful one for our purpose. In my experience, economic systems can best be understood through the assumptions, propositions, assertions, and promises of their rivals. Thus, Table 1.3 compares the properties of money in capitalist and Islamic systems with a view to seeing where "money" stands in an Islamic setting.

The subject of public goods has been covered extensively elsewhere, and we shall assume that the reader is familiar with this topic. Rather, here we focus on some related topics.[17]

Professor P. A. Samuelson, who was probably the first to do so, defined a public good as one for which consumption by one individual does not prevent consumption by another individual (Samuelson 1954: 387–9). These goods include items such as national defense, street lighting, mosquito repellent, clean air, and the welfare of future generations.

Before we look more closely at Table 1.3, perhaps we should remind ourselves of some of the reasons for market failure. These include:

1. public goods
2. externality
3. uncertainty
4. imperfect competition

5. asymmetric information
6. increasing returns to scale

(See Connolly and Munro 1999: 35–6.)

Table 1.2 Characteristics of private and impure public goods

Subject	Kind of good	
	Private good	**Impure public good**
1. price determination	market (supply and demand)	no market
2. utility (own)	direct and demand-reflected	no market reflection
3. value (marginal)	nearly equal to its price	not captured in the market
4. demand determination	horizontal sum	vertical sum
5. governed rule for beneficiaries	excludable	non-excludable
6. externality	zero	large
7. excess demand	removable by price	congestion leading to greater supply
8. production and management	private sector	public sector
9. incentive to produce	profit	social welfare
10. production cost paid by	private sector	public sector
11. production permit	law-free	law-binding
12. incentive to change output	profit	social welfare
13. optimum level of production	market-determined	social-welfare-determined
14. marginal cost	positive	zero
15. velocity of circulation	one	greater than one
16. owner of property	individual(s)	society
17. divisibility	possible	impossible
18. asset or liability	private ownership excludes other claims	private claim over government's responsibility

Table 1.3 Properties of money compared in capitalist and Islamic systems

Economic System		Subject
Islamic	**Capitalist**	
no price due to prohibition of *Riba*	market, which is interest	1. price determined at
indirect and derived from goods	positive due to its being store of value and possible entrance to utility function	2. utility (own)
high, due to its being potential capital	artificially given to it as a result of speculation	3. value (marginal)
vertical sum arising from zero price	horizontal sum arising from its positive price	4. demand determination
excludability removed through labor engagement	excludability because of its positive price; independent of labor	5. governed rule for beneficiaries
large because of its capability of becoming actual capital	zero because of its being private good	6. externality
removable through greater supply and more Profit & Loss Sharing (PLS) contracts	removable by price hike; not necessarily more output but less	7. excess demand
public sector (central bank)	public sector (central bank)	8. production and management
social welfare	profit via seigniorage	9. incentive to produce
central bank	central bank	10. production cost paid by
legally binding	legally binding	11. production permit
social-welfare-induced	profit induced	12. change in production
strictly dependent on the availability of factors of production (endogenous variable endogenous)	less than optimal due to positive price (exogenous variable)	13. level of production in the market
zero	zero	14. marginal cost of production
greater than one	greater than one	15. velocity of circulation
society	society	16. owner of property
impossible due to its attachment to labor via Islamic contracts	possible due to positive price and independence from labor	17. divisibility

Table 1.3 (*continued*)

Economic System		Subject
Islamic	**Capitalist**	
liability of government to general public	liability of government to general public	18. asset or liability (exchange value)

Notes:
  1. "price determination" refers to interest rate (r).
  5. "governed rule for beneficiaries" refers to the degree of access for those willing to share their efforts with the bank.
 10. "production cost paid by" refers to the cost of printing bank notes.
 12. "profit-induced" refers to Wicksell's idea of credit creation.
 14. "marginal cost of production" refers to the negligible cost of printing money.
 16. "owner of property" refers to the use value of money.

In all of these cases, market outcomes are not Pareto efficient; however, our main concerns are with the first two: public goods and externality.

To make the point clear, we take two extreme cases along a divisibility spectrum: (1) "purely private" goods and services are those that are perfectly divisible among separate persons (consumers). The total supply of such a good (or service) is represented by the sum of the supplies available to all persons. If X is the total quantity available to the group, and if x(1), x(2), ..., x(n) are quantities available to individuals, then by horizontal summation we get:

$$X = x(1) + x(2) + \cdots + x\,(n) \tag{1-6}$$

At the other end of our spectrum, we include those goods (and services) that are "purely public"; those that are perfectly indivisible as to benefit among the separate persons in the group (Buchanan 1968: 173–4). Here, if X is the total quantity available to the group, this same quantity is also available to each and every individual in the group:

$$X = x(1) = x(2) = \cdots = x\,(n) \tag{1-7}$$

In contrast with the pure private good of which total supply is reached by horizontal summation, the vertical summation gives us the total supply of pure public good. All other goods and services are then arrayed between these two extremes in accordance with the relative importance of "divisible" and "indivisible" elements. For goods and services along the spectrum between the two extremes, no simple algebraic definition comparable to the ones above is possible.

The problem of defining units becomes important. However, it is sufficient to think of all in-between goods as including both divisible and indivisible elements in varying ratios. One such in-between public good is "impure public good," which has more indivisible than divisible elements.

Again, in the case of public goods, the market fails because of two other properties: (1) non-rivalry and (2) non-excludability. Non-rivalry implies that one unit of the good can be consumed simultaneously by all consumers, as stated differently above. It also means that the marginal cost of supplying to an additional user is zero (Connolly and Munro 1999: 58). Non-excludability means that it is impossible to prevent consumers from consuming the good when they have not paid for it. As a consequence, the market may supply too little of the good or fail to supply the good completely (Ibid.: 35–6). This is a good example of the market economy failing to reach social optimality; hence, government intervention. The common form of intervention for public goods is for the government to play the direct role of the producer. Cost-benefit considerations of public interventions do not concern us here; however, cases may arise to question the public efficiency of public goods. Some may argue that the costs of government intervention to supply such goods may exceed those associated with market failure. Nevertheless, our concern, which is *money*, is very different in nature from examples often cited in public economics textbooks.

Public goods are normally and directly associated with externalities (Just *et al.* 1982: 284) and these externalities are not paid for in the market. Obtaining Pareto optimality and ignoring some of its assumptions has also become the source of a different kind of confusion.

A Paretian optimum is not necessarily superior to any non-optimum (Nath 1976: 22); specifically, sometimes the Paretian assumption that individuals are the best judges of their own welfare is violated. "Merit good" is the term used for those goods (such as healthcare or education) where it can no longer be assumed that the individual knows best (Connolly and Munro 1999: 36–7).

In summary, public goods have the following characteristics:

1. indivisibility
2. non-excludability
3. non-rivalry
4. vertical summation

The problem which remains to be addressed is that of the free-rider in relation to public goods; that is, the natural inducement to enjoy the good without paying for it. According to Professor Buchanan, the "free-rider" terminology so often used in public goods theory is itself somewhat misleading. He distinguishes between small-number and large-number models. In his words:

> ... free-rider literally interpreted more closely describes the small-number model, in which the individual does compete explicitly with others in a personal sense... In the relevant large-number setting, the individual does not really say to himself "let George do it"; he simply treats others as a part of nature. (Buchanan 1968: 87)

A good example of a large-number model is cooperation:

> ... if benevolence were to lead each person to regard her fellow's concerns as her own, there would be no free-riders or parasites to be restrained by the visible hand of cooperation. All would seek naturally to coordinate their actions for the common good, without putting forward opposed claims to the fruits of their endeavors, which justice must resolve. (Brosio and Hochman 1999: vol. 1: 114)

Returning now to Tables 1.2 and 1.3: there are several unresolved dichotomies in regard to the properties of money in capitalism which require explanation by Western economists. These include the following points:

- (item 8) If "money" is, as often claimed, a private good, why do central banks in all countries take responsibility for both its quantity and management? If it really is a private good, its production and management could be handled by the private sector, as is the case for other private goods.
- (item 10) Again, if money is a private good, why do central banks bear the cost of its production?
- (item 13) According to Keynes, the optimum amount of capital occurs when MEC is zero; any amount of capital less than that corresponding to MEC $= 0$ is not optimum. A positive rate of interest does now allow the MEC schedule to decline to zero and hence is non-optimum. Furthermore, in the absence of any externality, the ordinary demand and supply schedule of any private good brings about optimality. Why is it that in the case of money, this rule does not hold? In this treatment, I have

followed those writers who have long mistakenly considered money to be the same as capital and caused a great deal of confusion. We will come back to this very important and central point later.

- (item 14) If money is a private good in reality, why is its MC, unlike any other private goods, zero?
- (item 15) If money is a private good, why is its velocity of circulation persistently proven, unlike any other private goods, to be greater than unity?
- (item 16) If money is a private good, why is its "use value" owned by a government institution, the so-called central bank, and not by the private sector?
- (item18) The production of any private good is considered to be an asset to the producer; why is it then that money appears as a liability on all central bank balance sheets?

Taking all the details of the tables into consideration, it is clear that money logically possesses all the properties of an *impure public good*. It is difficult to assign any one of the 18 properties of private goods to money in an Islamic setting. A simple comparison of the properties of column 3 of Table 1.3 with those of column 2 of Table 1.2 shows that there is no similarity between them. It seems reasonable to add a new entry to the list of impure public goods entitled "*money in an Islamic economy*." The prohibition of *Riba* and the consequent non-existence of both a money market and speculation make it appropriate to put money in its proper place simply to perform its universal function as the "medium of exchange."

The 18 properties listed in Table 1.3, however, may not be exhaustive. Several other properties could be added to it to make it so and not all properties have the same importance. In my view, the most important properties of money in an Islamic setting are the following:

1. Centrally produced and managed (by central bank)
2. Indivisibility (further elaboration needed)
3. Velocity of circulation (greater than one)
4. Externality (of becoming actual capital)
5. Non-excludability

The property of non-excludability in money embodies not only the conventional property that additional consumption may be added at

zero marginal cost, but also it conveys a different view of the same thing. That is, nobody in a cooperative Islamic community is able to force others not to go after money, or demand it of them, until they have contributed to the production of society. When this condition of mutual obligation and dependence is met, every individual is free to demand all the money available within the society. The availability of the total stock of money to each and every individual implies a vertical summation. Needless to say, this particular property applies to capitalism as well. This condition, of itself, removes all possible free-rider problems. In other words, this best exemplifies the assertion that "there is no such thing as a free lunch."

To digress for a moment, in a stable and risk-free situation in capitalism, any interest income is an obvious example of a free lunch, in that interest earners are, in fact, free-riders.

To return now to non-excludability: consider a highway as an example of an (impure) public good. Everybody is entitled to use the highways; in effect, however, use is restricted to the owners of vehicles. This restriction is quite often ignored. If you do not work, if you do not have an income, if you do not have a vehicle, you are not able to use the highway. Furthermore, the space occupied by a vehicle passing along the highway cannot be used by another vehicle at the same time. This is another restriction. Nevertheless, the latter restriction can easily be removed as the result of the "velocity of circulation." Any unforeseen stop on the highway is likely to be followed by a fine given by a highway patrol officer. As can be readily seen, all of the above courses of action and conclusions apply equally to money. The bank notes you have kept, temporarily, in your pocket cannot be used by me at the same time. But money's velocity of circulation being greater than unity makes it quite possible for the same notes to be kept in the pockets of two persons, but at different times.

Secondly, indivisibility is not so obvious in the case of money. It is not the physical aspect of money (that is, the use value) that applies here. What makes money indivisible is not even its exchange value; rather it is its "purchasing power." As is obvious, the purchasing power of money—its value, V (m)—is inversely related to the Consumer Price Index (CPI). Undoubtedly, the physical material of money can be kept in your pocket, thus excluding others from having it at the same time. In this unimportant case, money is divisible, but the important aspect of money being a standard of

value (or unit of account, for that matter) is to have something in which its value does not change over time. Where there is any long-lasting change in its value, it ceases to be a unit of account. The purchasing power of money you have in your pocket is the kind of property of money which is indivisible and has to be counted upon. Security, for example, does not come about without material things. These material things are of identifiable units; however, security itself cannot be identified in terms of identifiable units. The same applies to the purchasing power of money in relation to its physical aspects.

Money, like a chain, brings together all the commodities (and services) in a systematic and interdependent fashion. This is an exclusive property of money, which also has all the other properties of similar (impure) public goods. In this respect, it gives sense and meaning to "value" being the ratio of the price of any conceivable commodity pairs; hence the medium of exchange and unit of account.

QUANTITY THEORY OF MONEY AND A COUNTRY'S BALANCE SHEET

More than 200 years ago, Adam Smith correctly asserted that "money is not the wealth" of a nation. It took many years to fully appreciate Smith's assertion. The true place of money becomes clear when one observes the balance sheet of the central bank (CB) of any nation, where it appears as a liability of the bank. How can it be balanced with another item of the same value on the asset side of the balance sheet? To answer this question, we need to construct what may be called a *balance sheet for the economy*. In so doing, we make three simplifying assumptions:

   a.   All transactions will be handled through banknotes and coins (that is, currency held by the public, CP); there is no fiat money.
   b.   There is no excess demand for any commodity, and the inventory of finished and capital goods is nil.
   c.   The velocity of money is unity.

Since capital does not play any role here, it is ignored. The simplified version of the CB's balance sheet is shown in Table 1.4 below.

Table 1.4 Central Bank consolidated balance sheet

Assets	Liabilities
Gold and foreign currencies G	Reserve Deposits R
Loans to depository institutions and government's obligations PB	Currency held by public CP=M
Total A	Total A

Assume, further, that in this highly simplified case, only two commodities, shoes (s) and televisions (t), are produced, at prices of p(s) and p(t), respectively. The market values of these goods are:

$$p(s) \times s + p(t) \times t$$

By taking the market values of shoes and televisions from the balance sheets of the companies producing them, it is easy to construct a hypothetical balance sheet for such an economy, at any time, as illustrated in Table 1.5 below.

Table 1.5 A hypothetical balance sheet for a country

Assets	Liabilities and Capital
Shoes p(s) × s	Currency held by Public M
Televisions p(t) × t	
Total p(s) × s + p(t) × t	Total M

Again, capital items have been eliminated. In this balance sheet, what we have is nothing more than the original form of the Quantity Theory of Money; that is:

$$M \equiv \sum p \times q = P \times Q$$

The balance sheet shows how things could properly be put in their own place. Everything that is produced is part of the *assets* of the economy. Those who work to produce goods receive a "token" called money (M), which represents the liability of the employer to the employee. Each employee, instead of being paid in the commodity he or she produces, is paid with the token. Since the token is legal tender, everybody can use it to buy whatever commodity he or she wishes. The "money" paid to every employee is the liability of the

employer. As we continue up the hierarchy of the economic system, it becomes the liability of the Central Bank which has printed and given it to the employees of the country on behalf of all employers. In brief, money represents a commodity. Just as a lawyer representing a client cannot have any rights over and above those of the client, money cannot have "rights" over and above the commodities it represents. It is like an object and its shadow. Commodities could be considered as objects and money as their shadow; but not vice versa. A failure to distinguish the direction from commodity to money has caused many serious problems as to the place of money. This closely resembles Keynes' idea that "money is an artificial, social convention." These examples should help us understand why we have to reverse the relation from $\Delta M \rightarrow \Delta Q$ in the capitalist system to $\Delta Q \rightarrow \Delta M$ in an Islamic economy.

In the case of fiat paper money in capitalism, its being considered durable, with no depreciation, but interest-bearing seems to have raised its rights well above those of the commodities it represents. If money itself were a commodity, like gold, the picture would look different, as we saw above. The commodity value of gold contained in money would appear as one of the asset items on the Central Bank's balance sheet, with the other part, which comprises the exchange value of the money, as a liability. Therefore, there are two extreme cases. First, total "money" consists of, say, gold in which its exchange value equals its use value; that is, its metallic value. Second, total "money" consists of fiat paper money, in which its commodity value is nil. In the first case, the metallic value of money appears as an asset item in the Central Bank's balance sheet and nothing, in this regard, on the liability side. In the second case, all exchange values of the money appear on the liability side of the balance sheet and nothing, in this regard, on the asset side.

Let us construct the two balance sheets for the above examples. Let us further assume that in either case, the capital and the liability of the central bank is $500. We need some simplifying assumptions, as follows:

Case One:

> 1,000 gms. gold ≡ $1,000 on international market
> 1 gm. gold ≡ 1 coin ≡ $1
> Total gold coins in the economy = 1,000

The balance sheet would look like this:

Assets		Liabilities	
1,000 gms. gold ≡ $ 1,000		Capital	500
—		Liabilities	500
Total	$ 1,000	Total	$ 1,000

Case Two:

1,000 gms. gold ≡ $1,000 on international market
1 gm. gold ≡ 2 coins ≡ $2 (exchange value)
Total gold coins in the economy = 2,000

Under these assumptions, we can construct the balance sheet as follows:

Assets		Liabilities	
Value of gold on international market	$ 1,000	Capital	$ 500
Others	2,000	Liabilities	500
—	—	Currency held by public	2,000
Total	$ 3,000	Total	$ 3,000

Using the same criteria, it would be easy to construct different kinds of balance sheets for different cases that lie between the two extremes. Instructive lessons can be learned about the behavior of any balance sheet in general. For example, if an accountant could add the value of the liability side of a balance sheet to that of the asset side in order to show that the value of a firm is twice as much as it really is, we, as economists, are also authorized to add the exchange value of the fiat paper money, as was done in the second case above, with the value to produce a GDP twice as much as it really is. This is an obvious example of double counting.

Now that the mutual relationships between important variables have been briefly examined, it remains to explore the functions of money in an interest-free economic system. It was premature, if not misleading, to state, as M. N. Siddiqi did, that "Money in a money economy must not cease to perform the function of a store of value" (see Ariff 1982: 27). Although almost every country in the world has fiat paper money, which represents the liability of the respective central bank issuing it, this does not necessarily mean that any money held at a micro level represents an IOU, too. On the contrary, any amount of money in this form held by individuals represents part of their assets. They have, presumably, supplied their labor and received in return an IOU issued by the central bank that represents the employer's liability to the employee which can be used and exchanged for goods and services. Such IOUs represent the labor services entailed in them, via the production function, by the employer. These two seemingly identical values, in two different units, have been exchanged; one as an asset and the other as a liability. All transactions, millions of them performed daily in every country of the world, represent two equivalent values but under two different names. In this sense, a society can never be out of equilibrium. This is the essence of the crude quantity theory of money. It means that for any item on the liability side of the central bank's balance sheet, there has to be an equivalent value as somebody else's asset. Millions of such transformations from one person's asset to another person's liability take place every hour.

Let us take the example of a money loan. To a lender, a loan represents an asset; to a borrower, it is a liability. In the case of money, all the money held by the general public is its assets but the liability of its issuer, the central bank. To count money held by the general public as assets of the central bank leads us not only to the "fallacy of composition" but also to double counting.

Going back to the hypothetical balance sheet we constructed earlier, it seems that the identity derived from this balance sheet has been used to construct the Keynesian cross, as shown in Figure 1.1. The aggregate supply curve (AS) drawn as a 45°-line from the origin shows nothing but the identity of the hypothetical balance sheet. For this reason, this line cannot be drawn with any angle other than 45°; that is, the total value of items appearing as assets should always equal liabilities plus capital.

Figure 1.1   The Keynesian cross
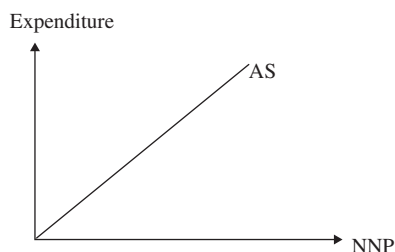
In brief, we can write:

$$AS \rightarrow M \equiv P \times Q$$

The important lesson that can be learned from the above analysis is that in the process of moving from changes in output to changes in the stock of money (that is, $\Delta Q \rightarrow \Delta M$) nothing is gained from considering either the inside money or outside money, through their real balance effects, as a part of a nation's wealth.

By far, the most comprehensive work in the literature defining money based on the medium-of-exchange concept is that of professors Pesek and Saving, who argue that money, including demand deposits in its total, is a net worth to society (Pesek and Saving 1967; Saving 1970). The type of analysis used by many economists is based upon real and legal identities, both of individuals and firms. A person has one real identity but perhaps many legal identities; while legal identities, of themselves, cannot have real identities of any sort, unless something else happens (for example, a marriage and the children resulting from it).

There are countless legal, but limited, identities in any society. There must be a balance between these identities whenever they are engaged in a transaction. The only place that these different identities can balance is on a country's balance sheet reflected on the AS curve as a 45°-line drawn from the origin. This might be the key to understanding money in an Islamic economic system where the initial step taken is through ΔQ, which by itself produces ΔM. We have to keep this in mind if professors Pesek and Saving, like many others, essentially deny that any liability that is involved in the analysis has a different framework. They in fact start from ΔM and then expect to reach ΔQ; a rare occurrence, to which we will

return in coming pages. Pesek and Saving explicitly argue that the money that is held by individuals in banks is, like a final product, manufactured by the banks for a profit, and is thus not evidence of a debt unless the bank pays interest. They further try to show that the inside-outside distinction does not matter, since if both types of money are net wealth, then wealth or real-balance effects will affect both equally. A formal demonstration of this is given by Professor Saving (1970). However, the position held by both men is essentially that *inside money*, *in a capitalist system, is net wealth*.

FUNCTIONS OF MONEY IN AN ISLAMIC SETTING

> *Only in the event of money being used solely for transaction and never as a store of value, would a different theory become appropriate.*
>
> (J. M. Keynes)

> *The transition from the conception of money as a medium of exchange to money as a store of value has raised new problems.*
>
> (H. Johnson)

In capitalism, the functions of money are traditionally discussed and analyzed with the underlying implicit assumption of interest. It is worth our while to return briefly to the historical evolution of the functions of money in economic literature.

Everything, in this respect, starts from the quantity theory of money. John Locke (1632–1704) has often been credited with the first English formulation of the quantity theory of money (Aschheim and Hsieh 1969: 135–50). This theory, as formulated by Richard Cantillon (1680–1734) and David Hume (1711–76), was accepted by classical economists. It represented the mainstream of thought in classical monetary theory. It is a long-run view. Money is considered neutral in the long-run equilibrium, so it is quite legitimate for the classicists to have treated money as a veil superimposed on the underlying real relationships.

The classical writers were well aware of the crucial interdependence between money and output markets via the indirect mechanism of interest rate. An example of this awareness is Henry Thornton's

(1760–1815) "Enquiry into the Nature and Effects of the Paper Credit of Great Britain" (1802). He was probably the first economist who introduced into economic literature two rates of interest: the bank rate and the natural rate. What he really meant by "natural rate of interest" was rate of return on capital; which, of course, is very different from rate of interest on money. This seems to be the source of much confusion, in that many writers mistakenly use these two distinct concepts interchangeably. Thornton (a Member of Parliament and director of the Bank of England) believed that if the loan rate were kept below the investors' rate of return on capital in the commodity market, there would not be any tendency to check an overexpansion of credit.

David Ricardo (1772–1823), accepting Thornton's two-rate analysis on the short-run variability and long-run invariability of the rate of interest, wrote: "... the rate of interest is not regulated by the abundance or scarcity of money, but by the abundance and scarcity of that part of capital not consisting of money" (Patterson 1932: 198). To the classical economists, the realness of the equilibrium rate of interest was the result of careful analysis. Charles Rist observes that: "The concept of quantity completely dominates Ricardo's monetary theory: the level of prices depends on the quantity of money, whether that money is metallic or paper." He further points out that: "The idea of money as a means of storing value has completely disappeared" (Rist 1940: 170–1).

The original thought in classical monetary theory was restated by John Stuart Mill (1806–78). The quantity theory conclusions—that in equilibrium, money is neutral and the rate of interest is independent of the quantity of money—were explicitly stated in his *Principles of Political Economy* (1848). Mill was quite aware of the necessary assumption on which the quantity theory rests; that is, the assumption of an equi-proportionate distribution of new money relative to initial money holdings. To Mill, the quantity theory conclusions depended upon the necessary assumption of an absence of distribution effect. If this assumption were dropped, the relationship between money and prices would lose its precision. Mill explicitly stated that if distribution effects were present, an increase in the quantity of money would not be neutral and the rate of interest could be permanently affected (Aschheim and Hsieh, 1969: 158–64). Thus, it is not quite true to say that the distinguishing characteristic of classical monetary theory is the proposition that the rate of interest was independent of the quantity of money.

Mill was not unaware of the function of money as a *store of value*:

> … the effect of the employment of money, and even the
> utility of it, is, that it enables this one act of interchange
> to be divided into two separate acts or operations; one
> of which may be performed now, and the other a year
> hence, or whenever it shall be most convenient. Although,
> he who sells, really sells only to buy, he need not buy
> at the same moment when he sells; and he does not
> therefore necessarily add to the immediate demand for one
> commodity when [he] adds to the supply of another. (Mill
> 1848: 70)

This statement clearly demonstrates that Mill had quite well under-
stood *the analogy between store of value and speculation;* but it was
not systematically brought into formal analysis and, more impor-
tantly, its consequences remained unknown until the Great Depression
of 1929–32. During this period, the Dow-Jones average of stock prices
fell from $125 in 1929 to $27 in 1932. Furthermore, the British
economy has subsequently been through three major recessions—in
1974–75, 1980–81 and 1990–93 (Crystal *et al.* 1994: 3). Keynes has
rightly been credited for his contribution to the formal analysis in this
regard. Guy Routh, for example, had this to say of him:

> By the spell of their own theory, economists were incapac-
> itated from understanding what was going on, and it was
> going to take great magic to free them. Their saviour had
> to be someone of impeccable antecedents who could com-
> municate with them in their own symbols, an undisputed
> member of the fraternity, from an exclusive seminary. John
> Maynard Keynes (1883–1946) was eminently suited for
> this role. (Routh 1975: 271)

Such was Keynes' success in the area of economic doctrine, that
people became complacent:

> In the 1950s and the 1960s, there were no major recessions
> and it appeared that the business cycle had been elimi-
> nated. Professors of economics gleefully told their students
> that Keynes had paid all salaries for the next 50 years.
> With the fiftieth anniversary of Keynes' death approach-
> ing, economists must pray for a new benefactor… and
> soon. (Crystal and Price 1994: 3)

Through his book *The Share Economy (Conquering Stagflation),* Professor Martin L. Weitzman came to be regarded as another benefactor. Although his scheme, which is alien to capitalism, has not yet been implemented, historical evidence suggests that Western economists are in need of another savior. This process will certainly keep going indefinitely until the *prime fallacy* ("*the cancer cell*" might be more appropriate)—that is, interest and its derivatives known as speculative activities in any market—is totally removed from the capitalist body. This is what this book is all about.

Many economists, myself included, believe that the capitalist economic system is incapable of settling such annoying issues in a satisfactory manner. Its inability to do so probably stems from its denial that speculative motives could be behind the demand for money; which is obvious and clearly undeniable. Any attempt to save capitalism from its malfunctions is futile unless the robust destructive role of the store-of-value function of money as a means of speculation is admitted and the system amended accordingly. The prime fallacy shows itself in many areas not restricted to employment and price levels. It is even more evident in the bursting bubbles of the late twentieth and early twenty-first centuries, to which we shall return shortly.

Some economists believe that the quantity theory is more than the mere conclusion that the stock of money determines prices (Makinen 1977: 4–5). It consists of five interrelated propositions, the organization and discussion of which owe much to Thomas M. Humphrey (Humphrey 1974: 2–19), as follows:

a. **Proportionality:** the general level of commodity prices will vary directly and proportionately with the stock of money; the price level will rise by an equal percentage. This proposition follows from an economy in which its internal mechanism is capable of generating a full employment level of output, and in which individuals maintain a fixed ratio between their money holdings and the money value of their transactions.

b. **Neutrality:** changes in the stock of money will have no lasting influence on the level of real income, the real rate of interest, the rate of capital formation, and the volume of employment. The only lasting influence of a change in the money stock will be to alter the general level of prices.

c. **Monetary Theory of Prices:** propositions (a) and (b) do not preclude non-monetary factors from influencing the price level. Therefore, proposition (c) states that the general level of

prices is predominantly a monetary phenomenon and thereby precludes changes in non-monetary variables from having a lasting impact on the general level of prices.

d.   **Causal Role of Money:** the series of events known as the "business cycle" can be explained exclusively by variations in the growth rate of money supply about its long-run trend. Thus, changes in the money supply precede and cause subsequent changes in the price level.

e.   **Exogeneity of the Nominal Stock of Money:** the nominal stock of money is supply-determined, and the supply of money is under the control of the central bank. This implies that changes in the demand for money will not automatically bring forth compensatory changes in supply. It is, then, the central bank which determines the supply of money.

To quickly skip over the neoclassical monetary theory, the following characteristics can be found as ties between the classicists and the Keynesian Revolution:

1.   Fisher's Transactions-Velocity approach (Fisher, 1911) and his classifications of the determinants of both transactions (T) and velocity in the equation of exchange:

$$(M) \times (V) + (M') \times (V') = P \times T.$$

On the degree of importance of money in relation to production, he observes: "The whole machinery of production, transportation, and sale is a matter of physical capacities and technique, none of which depend on the quantity of money" (Fisher, 1911: 155). He apparently perceived that the factor which assured the stability of equilibrium was the real-balance effect (Aschheim and Hsieh 1969: 167–8).

2.   Alfred Marshall (1842–1924), as the founder of the Cambridge Cash-Balance Approach, maintained that monetary theory should be integrated with value theory. Some economists believe that Marshall laid the foundation not only for the Keynesian liquidity-preference theory but also for the post-Keynesian developments in integrating the theory of demand for money into a "general-asset" theory (Aschheim and Hsieh 1969: 170–6). However, he soon dropped the asset or wealth consideration and never put it

into a formal analysis. Marshall treated the supply of money (M) as an exogenous variable. Given the demand and supply of money, the value of money [V(M); the reciprocal of the price level 1/CPI] would be determined. His analysis could be summarized in the following equation:

$$M = kPY$$

where (k) is that fraction of money income (PY) which the community wishes to hold in the form of cash an demand deposits; (P) is the general price level; and (Y) is total output.

It should be remembered that Marshall did not put his theory in this algebraic form. The Pigouvian version was the first algebraic expression of Marshall's theory. (Pigou 1917: 162–83)

Another, similar, formulation was provided by Keynes in *A Tract on Monetary Reform*. In this book, Keynes considered the quantity theory a fundamental truth. "Its correspondence with fact," he said, "is not open to question" (Keynes 1923: 74). Like Marshall, Keynes concentrated on the medium-of-exchange function of money. He was of the belief that the quantity theory "follows from the fact that money as such has no utility except what it derives from its exchange-value" (Ibid.: 77). The speculative demand for money is entirely absent from the Tract. Knut Wicksell (1851–1926) did not consider the Keynesian speculative demand for money. He held that the motives for holding cash consisted solely of transactions and precautionary motives (Aschheim and Hsieh 1969: 176–83).

Keynes' *A Treatise on Money* (1930) marks the beginning of his departure from the neoclassical monetary theory. In the preface, he wrote: "The ideas with which I have finished up are widely different from those with which I began."

It is generally recognized that the most important contribution made by Keynes in his Treatise is his analysis of the asset demand for money or liquidity preference. Earlier writers had recognized the store-of-value function of money, as evidenced by their discussions of hoarding (Aschheim and Hsieh 1969: 187). Keynes, however, was the first to integrate liquidity preference into a theory of money and prices. Hence, the demand for money can now be related to the rate of interest as well.

The Cambridge, or Cash-Balance, approach to monetary theory consists of what is now called the "portfolio," or "capital theoretic,"

approach to money. The writings of this school made it clear that in their discussion of the *utility of money*, they recognized what Keynes was to call the transactions and precautionary motives for holding cash balances.

In his several pieces on the history of doctrine in monetary economics, Professor Patinkin has concluded that Keynes in *The General Theory* did, in fact, make a significant departure from his previous work and that of his Cambridge associates, such as Marshall, Pigou, Frederick Lavington and Denis Robertson. So significant was the Keynesian formulation that Patinkin believed liquidity preference worthy of being called a new theory of money (Patinkin 1969).

Keynes' first point of departure was to see clearly that *budget constraint* must consist of both *income and wealth*. The former was relevant to the transactions demand for money, whereas *the latter was pertinent to the speculative, or asset, demand for money* (Makinen 1977: 210; my italics).

Keynes' monetary theory is to be found in his denial of the five basic propositions constituting the quantity theory of money (see Makinen 1977: 224–8).

THE *GENERAL THEORY* AS MONETARY THEORY

From the viewpoint of monetary theory, there are two fundamental issues in *The General Theory:* (1) Keynes' attack on the traditional separation of monetary theory and value theory, and (2) his emphasis on *the demand for money as an asset, for speculative purposes*, as an alternative to other yield-bearing assets. Professor J. R. Hicks observed that ''what is wanted is a marginal revolution'' in monetary theory; and *The General Theory* came close to implementing such a revolution (Hicks 1935: 14).

The General Theory represents a transition from a monetary theory of prices to a monetary theory of output (Keynes 1936: vi–vii). In making this transition, Keynes not only attempted to integrate monetary theory and value theory, but also properly brought the theory of interest into the realm of monetary theory. In so doing, he revealed the kind of problems which could arise from the presence of interest in an economy, an accomplishment for which he has never received sufficient credit. It seems, though, that *he is more a critic of capitalism than an endorser of it.*

The Keynesian theory has, correctly, been evaluated as being more "general" than the neoclassical quantity theory in the sense that, first, it does not overlook the relationship between the quantity of money and the rate of interest and, second, it does not overlook the relationship between the quantity of money and output. This *general theory* includes the neoclassical as a special case (Aschheim and Hsieh 1969: 194–6).

In rejecting the orthodox saving and investment theory of interest, Keynes wrote:

> The rate of interest is not the "price" which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption. It is the "price" which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash... Liquidity preference is a potentiality or functional tendency, which fixes the quantity of money which the public will hold when the rate of interest is given; so that if r is the rate of interest, M the quantity of money and L the function of liquidity preference, we have $M = L(r)$. This is where, and how, the quantity of money enters in the economic scheme. (Keynes 1936:167–8)

The most distinguishing feature of Keynes' monetary theory is its emphasis on the demand for money for *speculative purposes, influenced by the rate of interest*, as an asset alternative to other yield-bearing assets. This emphasis led others to become more cautious about interest rate.

Interest rate plays a central and crucial role in Keynes' monetary theory. This role prompted Sir Dennis Robertson to make the following stricture:

> Under the impulse of Keynes' work, the rate of interest was elevated to a position of commanding theoretical importance. Roughly speaking, nothing was ever allowed to happen... money was not allowed to affect prices, wage rates were not allowed to affect employment. I had almost added, the moon was not allowed to affect tides—except through the rate of interest... But it became also the villain of the piece, and a very powerful villain. It was the dragon guarding the cave of "liquidity preference." (See Aschheim and Hsieh 1969: 197)

Keynes believed that the existence of a liquidity preference for money could be explained by a necessary condition: "*This necessary condition is the existence of uncertainty as to the future of the rate of interest*, that is, as to the complex of rates of interest for varying maturities which will rule at future dates" (Keynes 1936: 168; my italics). Although he did not set up a theory of expectations, the impact of *The General Theory* has been so great "that most of recent theory and research on money can be classified either as applications and extension of Keynesian ideas or as counterrevolutionary attack on them" (Johnson 1962: 336; see also Aschheim and Hsieh 1969: 199–255).

In conclusion, monetary theory can be classified into two broad theories: (1) Classical monetary theory, and (2) Keynesian monetary theory. Other related theories lie in between these two extremes. The brief explanation provided above shows that any desired changes in output (ΔQ) can be achieved by changes in the stock of money (ΔM) via the rate of interest (r); that is:

$$\Delta M \xrightarrow{\quad r \quad} \Delta Q \quad \textbf{outstanding feature of capitalism}$$

Both schools of economic thought take as a given that the central bank has, and must have, control over the supply of money. Any change in the stock of money will lead to changes in the rate of interest and this in return, presumably, however rarely, changes the demand for investment goods which, it is hoped, will bring about more output and employment. In his analysis of the investment function, Professor M. Evans comes to an inconclusive result and observes: "The interest rate elasticity is subject to a great deal of variability." In explaining the existence of an equilibrium level below full employment, he adds that it is because "*the investment function is interest-inelastic at low rates of interest*" (Evans 1969: 137 and 351; my italics). An appropriate question to ask here is: What rates of interest are low and how can low rates be distinguished from high rates?

Professor Robertson is quite right in his assessment of the place of interest rate in capitalism, in general, and in Keynesian monetary theory, in particular. It is fair to add that *the place of money in capitalism has been elevated, via the rate of interest, and put it in an "ivory tower"; the position originally belonging to human beings.* The proper place of "labor" has been artificially replaced by money.

There is another equally important question that needs to be asked: Why should the stock (supply) of money be taken as *exogenously* given

in the first place? In an alternative economic system in which money could be placed in its proper place and treated as an endogenous variable, this would clearly be worthy of serious consideration. Let us go even further and propose that in a stable and dynamic economic system, all interrelated variables have to be *endogenously* defined and then determined. This is of decisive importance.

A healthy economy is one in which any demand for greater output can easily be transformed into an increase in the supply of money without any market intervention. As I see it, this is what an Islamic economic system is all about. Such a system can be demonstrated by the following one-way relationship between output and money:

$$\Delta Q \xrightarrow{\hspace{2cm}} \Delta M \quad \text{outstanding feature of Islamic system}$$

This is, as will be demonstrated shortly, what happens in the case of Islamic banking. In this new setting, the *supply of money is an output-determined variable*. This model explains that whenever more money is needed, it will be adequately supplied. More importantly, however, there is no limit to the supply of money as long as there is unutilized production capacity in the economy. An Islamic central bank, consequently, will have a robust and delicate instrument for the stock of money without having to intervene in the market (something most economists oppose). This eases the task of the central bank and removes one great obstacle to its independence.

As will be seen in the following chapters, and contrary to the findings of writers such as Mohsin S. Khan and A. Mirakhor (Khan and Mirakhor 1987: 31), the operations and functions of both Islamic banks and an Islamic central bank would be fundamentally different from the conventional banking system in that both would operate under the influence of endogenous forces. In particular, an Islamic central bank would not have the proper instruments to intervene in the market and, in any event, is precluded from doing so. The most important tool at its disposal is the ability to change the ratio of capital (that is, the bank's share to that of the potential investor) relative to that of expected profit. This does not imply market intervention, however. It is simply a ratio, not the price. As noted earlier, it is a demand- or output-determined scheme.

Before we explore the functions of money in an Islamic economic system, we need to observe the following points:

As we saw earlier, it was long believed that money had just one important function to play; that is, as a medium of exchange. To

this was added the unit-of-account function. This belief, beginning with the pre-classical monetary theory and extending to the classical and neoclassical monetary theories, was maintained during the period from 1650 through to 1936.

Pre-classical monetary theory (which obtained from 1650 to 1776) consisted essentially of two strands of thought: i) that "money stimulates trade" and ii) the quantity theory of money. The outstanding exponents of the first doctrine were John Law, Jacob Vanderlint, and Bishop Berkeley. The major contributors to the development of the quantity theory were John Locke, Richard Cantillon, and David Hume. A reconciliation of the two theories was attempted by Hume (see Aschheim and Hsieh 1969: 135–50).

The majority of writers of this period did not embrace the concept of "neutral money," which emerged for the first time in the writings of Hume. None of these writers paid any attention to the role of interest expectations in the economic decision-making process.

In the economics of John Maynard Keynes, as Professor Dillard so aptly put it,

> ... "money holds the key to explaining unemployment but not to its remedy." In the economics of Jacob Vanderlint... money holds not only the key to explaining unemployment, but also the effective remedy for unemployment. The explanation of this phenomenon lies in the fact that none of these writers paid any attention to the role of expectations in the economic decision-making process. Hence, the theory of liquidity preference is conspicuously absent in their writings. *Without the speculative (asset)-demand-for-money function, the elasticity of aggregate demand with respect to an increase in the quantity of money will be equal to unity.* (Ascheim and Hsieh 1969: 141; my italics)

Sir James Steuart (1712–80) criticized the quantity of money theory by pointing out that prices were not only a function of the quantity of money. Broadly speaking, Steuart's monetary theory had a family resemblance to that of Keynes. Both recognized that the influence of money on prices is indirect; both also recognized that the market mechanism might set a rate of interest too high for a flourishing trade, and that money could be managed to compensate for such disturbing forces in the economy (Sen 1947: 19–36).

It is on the grounds of usefulness in organizing our knowledge of economic relationships that this book has been written. The fundamental aim of abolishing interest (usury) is, it seems to me, to prevent having disturbing forces in the economy. Anything that can reduce the effects of the disturbing forces in the capitalist system will bring only temporary relief. For more permanent relief, the system itself will need to undergo radical surgery (and soon) to remove the cancer cells emanating from the original cell—interest.

Now that the mutual relationships between important variables have been examined (albeit briefly), it remains to explore the functions of money in an interest-free Islamic economic system.

The statement "Money in a money economy must not cease to perform the function of a store of value" (Ariff 1982: 27) seems to me somewhat premature, if not misleading and lacking in justification. Those who hold such views have failed to recognize the close relationships and the causality among interest (rate), speculation, store of value, liquidity preference, hoarding, and holding idle-cash balances.

Many such misunderstandings can be found in the Islamic banking literature but that is not to say that nothing valuable has been done on the subject. On the contrary, there are many more outstanding works which deserve special attention and admiration. In this assessment of some of the mistakes, I have endeavored to follow four complementary criteria:

1. Social justice is the ultimate goal of Islamic economics, the importance of which cannot be exaggerated. Any deviation from such teachings brings about *Zulm* (injustice). Embedding justice into the heart of an economic system is not as hard as most mainstream economic theorists imagine.

2. There must be cooperation among all individuals and legal entities, from which positive synergy emerges. This will naturally bring about externality, both in consumption and production. Externality in consumption takes the form of interdependent utility functions; in production it gives rise to "the share economy" or a "grand cooperative system" which makes it possible for individuals to enjoy part of the profits of the firms for which they work.

3. In any conflict between social and personal interests, the social interest must prevail. To most Western economists, the concept of efficiency is based on Paretian value judgments which assume that: a) there is no "society" above and beyond

individuals. Thus, we should be interested only in the wel-fare of individuals and nothing else; (b) individuals are the best judges of their own welfare and choose what is best for themselves; and (c) social welfare can be said to have increased if at least one person's welfare has increased and no-one else's has fallen. Pareto optimality has little to say about the "correct" allocation of resources and says nothing about equity (justice). When it comes to the debate over the level of redistributive taxation or public expenditure, such comparisons cannot usually be made using the Pareto crite-ria. Similarly, saying which of two options is the better when both are Pareto improvements is impossible (Connolly and Munro 1999: 32–3). In brief, the capitalist system exhibits all the hallmarks of a zero-sum game.

Muslim scholars have a different interpretation of "indi-vidual" and "society," however. Briefly, in Islam we believe that: a) "society" exists independent of real entities (indi-viduals); b) society has the prerogative in policy issues; c) only with cooperation among individuals will social welfare increase; d) with cooperation and the resulting externality, both individual and society benefit without incurring any loss to either side; and e) the Islamic economic system can be visualized as an increasing-sum game. Keeping all of this in mind, we are really talking about a very different economic system.

4. There must be no money market. This is a simple outcome of the abolition of *Riba* in Islam, which in turn prevents the development of speculation in any market. Money then becomes an endogenous variable and integrated in capital (theory).

    To avoid any compromise within these four features, the first has to be separated from the rest. We will call the remaining features, whose presence is central to the subject, the "trinity criteria" of an Islamic economic system.

At this point, a few words about capitalism are necessary in order to better understand the Islamic economic system. Capitalism is mainly characterized and analyzed in an environment with no cooperation and externality—the two fundamental characteristics of

human societies, whose neglect has a profound and adverse impact on the welfare of a state. Specifically, Pareto optimality, which has been proved not to be necessarily superior to any non-optimum, ignores these two elements (see Nath 1976: 21–2). Underlying the concept of Pareto efficiency (known as the first and second fundamental theorems of welfare economics) are the Paretian value judgments outlined above.

All of these assertions are matters of heated debate among theorists whose treatments are beyond the scope of this book (see Connolly and Munro 1999: 31–7, for example). However, suffice to say that these assertions are basically derived from Islamic teachings whose central role in the type of system to be constructed cannot be exaggerated.

Pareto optimality has been extensively criticized as being overly utilitarian, with Professor Sen leading the attack:

> The traditional propositions of welfare economics depend on combining self-seeking behavior, on the one hand, and judging social achievement by some utility-based criterion, on the other. In fact, the traditional welfare economic criterion used to be (and still seems to be) the simple utilitarian one, judging success by size of the sum total of utility created—nothing else being taken to be of intrinsic value. A social state can be [said to be] Pareto Optimal if and only if no one's utility can be raised without reducing the utility of someone else. This is a very little kind of success, and in itself may or may not guarantee much. A state can be Pareto Optimal with some people in extreme misery and others rolling in luxury [but] can be made better off without cutting into the luxury of the rich. (Sen 1987: 30–1)

Sen believes that the basic issue is whether there is a plurality of motivations or whether self-interest alone drives human beings. In the past two decades or so, many economists have come to the conclusion that economics has to return to its roots, which lie in ethics and moral philosophy.

One of the goals of this book is to bridge the gap between the so-called value-free conventional banking and social interests incorporated into what we choose to call "Islamic Banking." It will be shown that in "the Grand Cooperative" system there are

reasons to believe that the Friedman Rule finds its own credibility and justification.

Quite contrary to the Paretian value judgments outlined above, I, like Murtada Mutahhari, believe that:

> Society is a real compound like the natural compound. But the synthesis here is of minds and thoughts and of wills and wishes; the synthesis is cultural and not physical... [I]ndividuals... who enter into social life with their gifts acquired from nature and their inborn abilities, spiritually merge into one another to attain a new spiritual identity which is termed "social spirit." In this case, the "whole" or the "compound" does not exist as a single entity. It is different from other compounds... [I]n the synthesis of society and individual, though an actual synthesis takes place... the plurality of individuals is not converted into a unity... Society conceived as a single physical unity is only a hypothesized abstraction. (Mutahhari 1985: 12.)

Mutahhari has further claimed that the verses of the *Holy Quran* confirm this view (Ibid.: 14).

Viewed in this way, the welfare of society takes precedence over one or a group of individuals. This overrules the Paretian value (b) and means that society is the best judge when conflict arises between the welfare of the society and that of an individual.

With respect to value (c), it has been proved that charitable contributions (*Infaq*, which is an excellent example of consumption externality and highly recommended in the *Quran*) will increase the welfare of both the giver and the taker, simultaneously, without any loss to society. This is contrary to the third assumption of Pareto optimality, which reveals how little this optimality can say about the "right" allocation of resources.

It is impossible, in standard economic theory, to measure interpersonal comparisons of well-being except on an absolute standard: "Are this person's preferences satisfied to the extent of his income?" Interpersonal comparisons of well-being on a relative standard—"Are this person's preferences somehow more important or more crucial to his well-being than this other person's preferences?"—simply cannot be accommodated.

The above arguments are negative interpretations of Arrow's Impossibility Theorem.[18] However, there seems to be a strong positive view on this, too. The Theorem proves that, under reasonably

relaxed conditions, the only social-welfare function that could recognize relative, rather than absolute, satisfaction of preferences would require a dictatorship in which one individual has to establish the ranking of those preferences. (For further elaborations, see Hosmer and Chen 2001.)

Game theory has shown that the rational assumption for individuals to adopt in their interactions with others combines an absolute equality of ability, an absolute access to information, and an absolute focus by everyone on maximizing their own well-being. More recent experimental games, however, show that players are cognizant of the economic interests of other persons, which clearly chimes with what Professor Sen has termed "of great instrumental importance in the enhancement of the respective goals of the members of [a] group" (Sen 1987: 85), and the need to cooperate so that all may achieve their individual goals.

Another feature of capitalism has been demonstrated by Arrow's Impossibility Theorem which, despite its restrictive assumptions, allows Duesenberry-type externality in consumption to exist. However, Coleman (1966) argues that the third condition of the theorem, relating to the independence of irrelevant alternatives, is inconsistent with both collective and individual rationality. Furthermore, Hildrith (1953) was one of the first to show that if the third condition is dropped, consistent aggregation of individual orderings into a social ordering will be possible (for further analysis, see Nath 1976: 131–8). It is not hard to show that incorporating cooperation and externality into the structure of the Theorem changes it into the Possibility Theorem.

An investigation into Western writings on economics reveals many other misinterpretations, such as those reflected in the following statement by Professor Morishima: "... because it takes both time and money to make an engine, we are producing on a large scale 'aeroplanes' which have no engine" (Wiles and Routh 1984: 70). This is a clear reflection of his dissatisfaction with the current state of capitalist economic literature, most of which is explained in the form of mathematical models.

In the case of an Islamic economic system, when a new theory is set forth for which there is no antecedent, we need to go back and examine the Islamic world view, as set out fully in the *Quran* and the *Hadith*. This serves to confirm that my theory is capable of putting Islamic economic factors together in a scientific and justifiable manner.

The first criterion is simply a derivative of Divine Rules, which undoubtedly have the veto power whenever there is a conflict. Doubt has sometimes been cast over this veto power on the grounds that it creates impediments to the workings of wisdom and precludes minds from being active. In other words, it does not allow wisdom to freely investigate and discover realities. However, proper investigation into the teachings of Islam shows that such objections can be overruled for two reasons:

- The only reliable and absolute sources on all matters—past, present and future—are Allah's (SWT) sayings in the *Quran*, which stands first, and then the *Sunnah*, as a natural complement. History has taught us that no matter how well-designed and sophisticated man-made experiments are, they have defects. The more man searches, the more he is faced with unknowns and reminders of the depth of his ignorance. It is the absolute knowledge and the power of Allah (SWT) over all His creatures that governs the universe. Man's limited knowledge and mental abilities make it absolutely impossible for him to discover all the secrets of the universe, no matter how great his endeavors. Allah (SWT), the Eternal, the Absolute, (*Quran* 112:2), has graciously provided through the *Quran* vivid guidelines (*Mobeen*) and principles which are faultless and valid for ever and in all circumstances.

  His knowledge and power encompass past, present and future. This is the natural outcome of His being "the" creator of the universe and thus "the" reason for His guidelines and instructions having "the" veto power over all man-made systems and institutions.
- Allah (SWT) has made it possible for human beings to explore why such rules, guidelines and instructions have been given. In the realm of economics, this can only be done in the light of justice, the ultimate goal of the Islamic state. Far from being an impediment to exploration, the Divine Rules set out in the *Quran* provide a strong incentive to discover the reason for their existence. To take but one example, the abolition of *Riba* has prompted many scholars to find why it is in conflict with justice and to discover both the end result of interest-free (Islamic) banking and the model for a "just" financial system. Allah (SWT) has given step-by-step instructions in order to guide Muslims, yet carelessness and the overwhelming influence

of the teachings of capitalism on some writers has caused many serious problems and become the source of misunderstanding and confusion. Turning away from capitalist teachings, and producing new and genuine theories of Islamic banking in compliance with the trinity criteria, may be difficult but it is not impossible.

It might be useful here to review just a few of the problems and the sources of serious confusion that have arisen.

For example, Mohsin S. Khan writes:

> It will be noted that the model here is a dynamic variant of the standard IS-LM model, and no special factors have had to be introduced up to now… In many ways… lack of understanding and confusion… exists about Islamic economics… As was shown in the paper, this model does provide a reasonable portrayal of the types of Islamic banking systems that have been put into practice in certain countries… *The model that has been developed in this paper also turns out to have many similarities with standard models* used to analyze the behavior of banks at an aggregate level… Indeed, it is readily apparent that *the Islamic model of banking, being based on principles of equity participation, bears a striking resemblance to proposals made in the literature on the reform of the banking systems in many countries, particularly in the United States*. (Khan and Mirakhor 1987: 15–35; my italics)

Briefly, despite some original thinking, this paper suffers from some basic elements with regard to our second criterion:

- How, in the absence of interest, can a demand-for-money function be derived as the conventional LM curve? The author has totally failed to recognize the relationship between interest and speculation. It is generally well understood that "The demand for money itself is necessarily always speculative in a wide sense," as Professor Hicks so aptly put it.

     The author has also ignored the many different shapes that both IS and LM curves can take, which it is essential to consider in a general equilibrium framework (see, for example, Gowland 1985: 105).

- How in the world could investment be related to the real rate of return or, formally, to the rate of profit? (This ignores the logic behind the inverse relationship between consumption and other variables with the real rate of return!)
- The paper tries to justify the kind of so-called Islamic Banking put into practice in certain countries. However, the types of the operation he is referring to are far from Islamic, since for most of the countries to which he refers "Islamic" banking is a political rather than a banking issue. This is clear from the fact that had they implemented real Islamic banking, they would not have had so many economic problems such as chronic inflation, high unemployment, and inequitable distribution of income and wealth.
- The author adopts a conciliatory tone throughout the paper, especially when he says there are "many similarities" between his understandings of the types of Islamic banking with those "standard models." This tone reaches a climax when he thinks that he has found a "striking resemblance to proposals made in the literature on the reform of the banking system [of the type the author proposes] in many countries, particularly in the United States."

The only possible answer one can find for Dr. Khan's first two points is that he must have used the rate of interest, as is customarily done in standard macroeconomic textbooks, instead of the real rate of profit. This only serves to emphasize his own "lack of understanding and confusion about Islamic economics." The ignorance and confusion lies in the fact that, by using the same tools and predetermined conclusions arrived at in a conventional system, it is both impossible and unjustifiable to analyze different aspects of Islamic economics. Since the respective world views of the two systems are radically different, the mechanics, too, have to be different. This lack of understanding, however, is by no means limited to this author.

The following words of Keynes sum up admirably what sort of mix of ingredients the talents of an economic theorist must show, and consequently the fact that economics is an "orchestral" field of study made up of a balance of various methods of approach and disciplines:

> The master economist must possess a rare combination
> of gifts. He must reach a standard of several different

directions and must combine talents not often found together. He must be a mathematician, historian, statesman, and philosopher—to some degree. He must understand symbols and speak in terms of the general, and touch abstract and concrete in the same flight of thought. He must study the present in the light of the past for the purpose of the future. No part of a man's nature or his intuitions must lie entirely outside his regard. (Keynes 1972: 173–4)

An Abiding Memory

Perhaps it might be useful at this point to recall a crucially important conversation I had with Dr. Mohsin S. Khan in Iran in 1992, when we both presented papers at an international course on Islamic Banking. A couple of days after the course ended, I saw him again at the headquarters of Iran's central bank in Tehran.

He told me about the opposition he had received from people from the banking sector of various Islamic countries who had attended his classes, all of whom questioned the logic of incorporating speculative demand for money, as an underlying assumption in deriving the LM curve, in a system without *Riba*. I invited him to the Iran Banking Institute, with which I had had an affiliation for some years, for a thorough discussion on the matter. He came the following day and it took me no more than 20 minutes to explain his faulty treatment of money in Islamic banking. I stressed the necessity of studying "money" in an Islamic setting as a prerequisite for all interested in studying Islamic banking. After a few seconds of deep thought, he accepted my recommendation and said something along the lines of: "Now I understand why Jeddah [that is, the Islamic Development Bank, IDB] has asked me what money is in an Islamic economy."

Somewhat surprisingly, in May 2002, at an international conference on Islamic banking held at the headquarters of the Bank of England, Dr. Khan raised exactly the same question as he had 10 years earlier, as if the matter was still unresolved!

It seems to me that the master economist also has to have, to some degree, additional talents, such as command over property rights (that is, law), accounting, and finance. Nor should economists using mathematical symbols forget Keynes' warning: "Unlike physics, for example, such parts of the bare bones of economic theory as are expressible in mathematical forms are extremely easy compared with the economic interpretation of the complex and incompletely known facts of experience, and lead one but a very little way towards establishing useful results." (Ibid.)

In another similar attempt, Khan and Mirakhor tried to base their analysis on the IS-LM curve (Khan and Mirakhor 1987:163–84), whose validity is open to serious doubt. Their paper displays an additional misunderstanding regarding "loan" operations. Although they write about *Mudarabah* and *Musharakah* financing methods,[19] they have totally failed to understand the fact that, with the exception of *Qard-ul Hassan*,[20] no Islamic contract is based on the lending–borrowing process, from a legal standpoint, which has negligible economic impact on aggregate variables as far as Islamic banking operations are concerned. It is generally well understood that all the outcomes of borrowed money, whether positive or negative, rest upon the shoulders of the borrower and cannot have any bearing on the lender in a valuable collaterally-based loan. Having failed to distinguish the legalities involved both in loans and Islamic contracts, they invented new terminology—"loans with equity features" (Ibid.: 169). Loan and equity are two distinctly different financing methods as far as legalities and economic aspects are concerned.

This failure to distinguish between the two then led them to write:

> Given the assumed signs of the relevant parameters, an increase in the rate of monetary expansion will lower the rates of return on financial assets, and will raise the national income. This corresponds to the results obtained in the familiar IS-LM model when there is an outward shift in the LM curve. (Ibid.: 179)

The problems that have prevented the authors from fully grasping the teachings of Islamic economics, if not economics itself, are as follows:

- Once again, the conciliatory tone is still apparent in their analysis. Furthermore, "the familiar IS-LM model" is totally

> alien to Islamic economic analysis, as should be obvious to everyone familiar with basic principles of money and interest in macroeconomics.
> - It is not clear as to why and through what mechanism "an increase in the rate of monetary expansion will lower the rates of return" in an Islamic setting. However, given the state of technology, such an increase may lower the rates of return on the existing capital-investment projects; but if any expansion of the rate of money supply is strictly geared to the demand for such investments, the conclusion seems erroneous.
> - The processes of capitalism, whether classical or Keynesian, start in a uni-directional way—from changes in money supply (ΔM) to hoped-for changes in output (ΔQ). But as we saw earlier, by integrating money in capital and eliminating the money market we, logically, have to reverse this process.

In another essay in the same book, Nadeem Ul-Haque and Mirakhor (Khan and Mirakhor 1987: 141–61) adopt the theory of Principal-Agent, and in doing so, run the risk of misleading readers in conveying the idea that in a "loan" contract the lender and borrower are permitted to share the profits earned by the borrower. They have totally ignored and misunderstood the obvious difference between bonds and stocks. These two instruments are very different in both theory and economic consequences. In a *Musharakah* contract (which resembles the notion and workings of stock), where profit is admitted and agreed upon to be shared by all partners involved, there is no such thing as a borrowing–lending process. Each partner brings in his respective share and the total "money" is pooled. As soon as the contract is signed, the money changes its legal character to actual capital and each partner gets his own share of the profit, as specified in the contract. But the profit share customarily corresponds with each partner's share of the capital.

In a loan contract, by its legal nature, any risk involved as the result of using the borrowed money is the borrower's responsibility alone, not that of the lender. The initial mistake in Ul-Haque and Mirakhor's analysis is that they fail to acknowledge that the legal responsibility in a loan contract is fundamentally different from that of a partnership.

In addition, the Principal-Agent theory is applicable only to *Mudarabah* contracts. In a two-person *Musharakah* contract or one

involving corporations, since each partner has his own share of capital, problems such as moral hazard, asymmetric information and adverse selection rarely happen. Hence, the conclusions the authors have arrived at cannot be logically generalized to cover all cases.

Another important point which can hardly be ignored is that the paper is basically alien to the cooperative principles bearing upon all Islamic economic activities. In a Grand Cooperative Islamic economic system, the problems outlined above hardly occur. Again, it seems that the authors have had difficulty divorcing their minds from the zero-sum game of capitalist teachings. Not only do the papers discussed above lack the positive synergy which "the grand cooperative" Islamic economic system brings with it but, surprisingly, they give consideration to problems such as moral hazard, asymmetric information and adverse selection. Whether such problems occur in a true Islamic system is questionable.

The strand of erroneous thoughts and conclusions that runs through these papers has been compounded by the fact that they have been frequently cited and have survived unscathed as they stand. This means that all other works based upon the kind of analysis, premises and conclusions of these papers are faulty as well. None of these papers pass the trinity test outlined earlier. If my objections have any validity, they reduce these, and similar, papers to irrelevance.

The apologetic character which pervades much of this and other economic writing based on misunderstandings of Islamic economic theory has meant that no Western economist has shown any noticeable awareness of differences between Islamic and conventional banking theory and consequences.

If, as Sadre asserts, the abolition of *Riba* has to do with maintaining socioeconomic justice, it is hard to find any economic justice bearing upon such writings. More importantly, a simple cost-benefit analysis of these papers shows that the costs far outweigh any benefits. The harm they have done to the understanding of Islamic banking far exceeds the good.

In proposing my three criteria, I am aware that this book is unorthodox in that it demonstrates different kinds of analysis and very different conclusions from those reached by others. Nevertheless, and bearing these criteria in mind, we need to find out whether there is ever any relationship between the functions of money and the demand for money. In this respect, the following topic seems appropriate.

COOPERATION IN ISLAM

Incentives and Norm-Based Behavior

Cooperation is one of the pillars of Islamic economics and thus indispensable. If the issues proposed here can be demonstrated successfully, then they will introduce a new dimension into economic analysis—a dimension that goes beyond the underlying individualistic behavior so characteristic of capitalism.

Islamic Recommendations and Incentives to Cooperate

The development of Islamic thought, belief and behavior has occurred gradually through time and on the basis of Quranic teachings. Rather than simply relying on man's limited and imperfect understanding and faulty interpretation, we refer to the *Holy Quran* itself, which provides the referent norms and values, the bases of Islamic behavior, which have evolved endogenously over time. As Tabellini has noted:

> While the traditional economic approach has yielded important insights, it misses an important dimension. In many social situations individuals behave contrary to their immediate material self-interest, not because of an intertemporal calculus of benefits and costs, but because they have internalized a norm of good conduct. Where we... refrain from stealing or cheating in an economic transaction is also determined by our values and beliefs about what is right or wrong. (Tabellini 2007: 2–3)

The importance of this issue cannot be exaggerated. It is in this respect that Tabellini further observes that:

> Until recently and with few exceptions, economists have generally refrained from asking these questions and have accepted a division of labor... A by-product of this division of labor is that, until recently, the analysis of social norms has generally escaped the discipline of methodological individualism, the paradigm of economics. (Ibid.:3)

Such an important oversight has had a substantial impact. As Professor Tabellini further notes: "Norms of limited morality are applicable only to a narrow circle of friends and relatives... Norms of generalized morality instead are meant to apply generally toward everyone.

Individuals who have internalized norms of generalized morality are likely to cooperate over a larger range of situations." (Ibid.)

For Muslims, the *Quran* is the most comprehensive of all books, from which are derived all norms of generalized morality. The process starts with the values parents choose to pass on to their children, and these are reinforced by the values of the prevailing social environment. These values continue to shape a Muslim's behavior till death. Muslims believe the *Holy Quran's* assertion that "He [Allah] never breaks His promise" (*Quran* 2:8). Allah is without defect and, more importantly, is not in need of His creatures in any form. He is "the Eternal, Absolute" (*Quran* 112:2) and from Him springs the generalized morality which forms the basis of Islam. As Tabellini correctly notes: "If more individuals follow a norm of generalized morality, then those who abide by this norm are induced to expand the scope of cooperation." (Tabellini op. cit.:4)

Taxonomy of the Incentive System[21]

Peer-to-peer schemes, multi-agent schemes and ad hoc networks aim to exploit synergies that arise from cooperation. Yet, these systems are composed of autonomous entities that are free to cooperate or not. Economic analysis allows us to assert that in human societies, incentives are indispensable to induce cooperation between and among autonomous entities comparing their own benefits and costs.

All forms of collective work share central concepts and problems such as the autonomy and coordination of participants. There is also a realization that teamwork produces synergy through the emergence of system behaviors that are more powerful than the sum of individual capabilities. As the number of participants increases, the resulting synergy increases exponentially.

An incentive pattern is a pattern of stimulating cooperation. If the characteristics of the respective incentive patterns, which are basically trust-based, are well explained to the players, the schemes may be conceived of and comprehended more systematically by taking into account the outcome which directly affects the players. The incentive pattern stimulates the players to act as direct participants. The response and roles of cooperative entities ("co-operands" or players) are not necessarily even and symmetrical. It might take time for each and every co-operand to see how its cooperative act affects the outcome. The incentive scheme has the important role of ensuring symmetry and fairness for the different players. The remuneration has

to be judged to be fair and just by the players, who are assumed to be fair judges, especially in the long run. Any unfair remuneration fails to be effective, at least in the long run.

Unlike remuneration in production, remuneration in consumption—like that related to alms (*Sadaqat*), charitable contributions (*Infaq*), and *Qard-ul Hassan*—is basically non-pecuniary and is directly affected by the psychology of the player. It has to do with the utility functions of the players, whose magnitude is not measurable. Each player has individual preferences and can accord higher utility to a particular thing than another player. Additionally, such remuneration cannot be stored by the player; rather, it is part of the environment and the norms adopted by players. Consumption cooperation and production cooperation are complements in that if production is a collective action, which it is, then consumption can also be collective. If I am correct in making this connection, then pecuniary remuneration—which precedes consumption—and non-pecuniary remuneration become complements and complete the circular flow of cooperation from environment (norms) to production and from production to consumption, as shown in Figure 1.2. This is what I refer to as a "Grand Cooperative System" (GCS) of the Islamic economy.

Figure 1.2 Circular flow of cooperation in a GCS
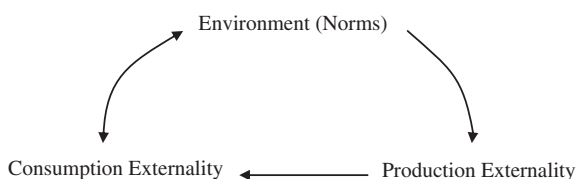
Despite the non-pecuniary incentive to consume, Islamic teachings tell us that its reward has to be accounted for in our behavioral decision-making. Its magnitude is sufficiently large to have great positive impact in our everyday lives. The degree of certainty of receiving remuneration in the world hereafter determines, all things being equal, an individual's commitment and contribution to charities (*Infaq*). In both production and consumption we have to be certain that the remuneration is of such a magnitude that it precludes staying out of the sphere of cooperation. This, in turn, will prevent free-riding from occurring.

An effective incentive scheme restrains misbehavior while rewarding active and cooperative behavior. Under an efficient incentive scheme, inappropriate or malicious behavior which has an adverse effect on the well-being of other members of an institution (be it a firm, an industry or a nation) can easily be detected and punished by those members. There has to be a harmony and coherence in collective actions. Indeed, an institution's continued viability is dependent on just and cooperative behavior. Its success requires collective action towards a common goal: "A collective is a set of entities with mutual trust and unconditional cooperation. The incentive for cooperation in a collective stems from being member of the same collective."[22]

The degree of trust between the players involved in operating a business and/or a formal or informal institution in a cooperative manner is such that they are willing to accept when an individual player claims not to be able to cooperate at a certain point. This inability to cooperate for whatever reason will bring with it a temporary penalty for the player involved, but such circumstances are exceptional. The collective is expected to always follow the general rule.

Any type of partnership under Islamic modes of contract is based on mutual trust. Trust plays the central role in Islamic banking, both for depositors and for firms which receive finance from Islamic banks. The dual role of an Islamic bank—as an advocate of depositors and as partner for potential investors—is based on trust in that the portion of the bank's profit earned on behalf of depositors will be devoid of wrongdoing and will be equitably distributed among them. On the depositors' side this trust is based on close supervision and sound auditing procedures undertaken by the bank. Firms receiving finance from Islamic banks are also closely monitored to ensure that all their transactions are sound and in compliance with the running codes of ethics. In short, depositors trust the banks, the banks trust the firms to which they lend and, indirectly, depositors trust the firms. Over a long period, this mutual trust based on unified cooperation and the absence of conflicts of interest, provides a strong incentive to work hard; hence higher social welfare. This is in complete contrast with *Riba*-based banking in which operations are, at least in theory, individualistic in nature and whose loans are collateral-based, for which no trust is needed. However, as long as corporations are legally established on the basis of the separation of management and ownership, trust has to be maintained between the two. Generally, any social activity is essentially based on trust, be it Islamic or capitalist.

The rules of the game should be such that all players can expect to enjoy some benefit(s) from cooperation. The provider (management or stockholders) may look at the profits rising as the result of cooperation among players. An increase in profits does not necessarily mean an increase in the price of the goods produced. Rather, it may well reflect increased efficiency, which is likely to result in a reduction in price and thus in a higher level of social welfare with no cost. It has to be remembered that greater effort does not mean higher cost as long as it is compensated for in a profit-sharing scheme. It might be argued that this will eventually involve increased costs measured by that part of the profit from which the labor component is compensated. Whether this can be called "cost" depends on the entrepreneur's approach. It can be measured by comparing his profits before and after profit-sharing. If his share of profits after profit-sharing is more than in its absence, then logically it cannot be considered as a cost. More fundamentally, profit is defined as the difference between total cost and total revenue. Labor's share of profit has to be considered as the dividend paid to stockholders. However, such is the commitment of the management to the labor force that it can be deducted from the total revenue for tax purposes, which can be viewed as an addendum to the existing fiscal policy tools but being specific to an Islamic state.

The magnitude of the increase in profits arising from each individual laborer's contribution depends on the further effort, (e), each puts in as a result of the incentive offered in the profit-sharing scheme. Effort, (e), takes on the value of unity in the conventional wage system and greater than unity in the case of profit-sharing arrangements. Furthermore, the direct effect of an increase in social welfare in an Islamic GCS is part of the entrepreneur's utility functions as well as those of labor.

An effectively-managed organization makes it possible for the fruits of cooperation to be realized by all; it makes them a reality. The greater the managerial effort, the greater is the resulting synergy.

An entity is allowed to fail to cooperate with its collective, as far as its membership is not cancelled. There is no need to explicitly restrain selfish behavior, because previous behavior and past reputation are generally diffused in the collective. Rational behavior requires being an effective co-operand in the collective in that it pays off.

There is an alternative to the trust-based incentive patterns. The longer it takes for remuneration to become effective, the less likely it is to cover all players. In some circumstances, explicit short-run remuneration of potential players might be desirable. In addition,

an incentive pattern should not assume remote future cooperation in order to stimulate cooperation. The externalities attached to the effective diffusion of cooperation might be used to stimulate a player to act both as player and provider at the same time. An incentive pattern that assumes such behavior is symmetric. This becomes of greater concern to labor-players who have the correct perception about "quasi-ownership"[23] of the firm as an increasing-sum game in an Islamic system. Here each side, labor (L) and management (M), acts as one interdependent unit, reducing the diversity of goals into unity. We will return to this in more detail a little later.

Some studies have shown that even if the majority of players act selfishly, the attitude and actions of the minority who behave cooperatively overwhelm those of the majority.[24] In other words, "a small amount of altruism appears to be enough to support some level of [cooperation]."[25] Over time, and in line with game theory, the members of each group—the cooperative and the selfish—either change their behavior or seek out those of similar inclinations in order to maximize their individual payoffs. This process enables stability to be introduced into the system (firm, city, nation) and optimizes the solution.

We can think of this as a two-person game[26] in which both share the same goal and form a coalition. Before giving an example, it is worth noting that as long as incentive patterns for cooperation are well organized and effectively implemented selfish players will do well for a while but will tend to change their behavior as they see that the more cooperative players have higher payoffs.

A JUST VOTING SYSTEM

It is a well-established belief that head-count has to be the prevalent voting system in cooperatives, irrespective of how much or how little a player contributes to the cooperative. This idea may well have had its origins in socialist reactions against capitalism. However, it is not based on any logic, except in special cases where all labor is homogeneous and perfect substitutes. As soon as labor becomes heterogeneous, which is often the case, the logic breaks down. This system of voting is quite the opposite of that in capitalist corporations, in which voting is based on each person's ownership of shares—in effect, a wealth-based system.

Each player in a cooperative has no incentive to buy more than one share. In fact, it is not logical to buy more than one because

buying more or contributing more to the firm's productivity does not increase the number of votes a player can have. This can lead to an inadequacy in the capital available to the firm to invest in new techniques or R&D. The historically slow growth of cooperatives all over the world can be attributed to their ill-founded and unjust voting system. In such circumstances, the individual players in the cooperative are likely to buy shares in other institutions where their voices are heard, and thus contribute more financially to other firms than to their own.

Within a legal framework of a firm, inequality does not come solely from disparities in the income of shareholders but also derives from different talents being put into practice. Shareholders do not contribute directly to the production of a firm. Different talents and expertise—in the form of managerial or other job skills—combine to produce commodities. They are the ones who are directly involved in efficiency.

What I am proposing here is knowledge-based but also takes account of wealth. In my view, the voting system in Islamic cooperatives should be based above all on intellectual-property rights. A firm is the place where coordinated masses of knowledge produce commodities. Knowledge is more important than money. This allows us to give more power to more knowledgeable players while keeping an eye on the money to be used to maintain the firm's capital adequacy.

To make this proposal clear, consider the following simple example. Imagine a cooperative firm composed of five players with the following characteristics: one is the manager; one is a highly skilled laborer; one is a skilled laborer; one is a semi-skilled laborer and the fifth is unskilled. I propose that the players have the following votes, from top to bottom: 10, 8, 5, 3, and 1, a total of 27 votes. This is more than five times ($27 \div 5 = 5.4$) as much as it would be in the established view about voting per head. The number of votes assigned to each is weighted to reflect their respective contributions to the firm. At its simplest, this could be in the form of wages, salaries, and fringe benefits for each. The advantages of such a system, which we will call the Intellectual Property Voting System (IPVS), can best be exemplified as we move to more complex and real cases in which a firm has thousands of players. In such cases, the number of votes increases exponentially because the complexities of the decision-making processes require different talents and expertise. Our IPVS solves the capital inadequacy quite often faced by established cooperatives. This is done by requiring greater investment from

those with higher knowledge and thus more votes within the Islamic cooperative. It also brings about built-in incentives for those at the lower echelons of the firm to improve their positions. Finally, it brings about stability because each individual player has a financial stake in the smooth running of the firm. Islamic banks are more willing to finance such firms built on solid foundations.

This proposal is just one example of how the principles of justice can be applied. There is nothing peculiar about this. It is built on the experiences of everyday life and, at its best, it is already being used—very often without our even being aware of it—in non-political international organizations, in international gatherings, in academic circles, in research centers, within families, and so on. As long as people realize that there is a dominant idea superior to their own, they tend to adopt it. While more research into the individual components of the system is required to iron out the deficiencies in cooperatives as they currently operate, I believe that this will undoubtedly contribute to making a better world for everyone. Knowledge-based solutions are the way forward. Wisdom is the answer to all problems.

ISLAMIC FOUNDATION OF NORMS FOR COOPERATION

The Holy Quran sets out the norms which Muslims should follow in all aspects of their personal, social and socioeconomic lives. These norms are based on cooperation, which brings rewards and benefits to those who adhere to the *Quran's* strictures. Allah (SWT) has promised additional rewards in the world hereafter, and of a magnitude beyond imagination. The rewards and incentives available to Muslims are worldly (being both objective and subjective) and in the hereafter (being subjective). Worldly reward can be further broken down into reward in consumption (subjective) and reward in production (objective).

As a preliminary look at norm-related cooperation, it is worth mentioning that (a) it is highly recommended that our everyday prayer is performed in a group, and (b) in our everyday prayer, the subject pronouns used are all in the plural form to include others; the most obvious being:

> Thee do we worship,
>
> And Thine aid we seek—
>
> Show us the straight way. (*Quran* 1:5 and 6)

Islamic Incentive and Reward in Consumption

A more formal analysis of this subject is presented in Chapter 5. Suffice to mention here, the Quranic basis of Muslims' concern for each other's well-being:

> The Believers are but
> A Single Brotherhood. (*Quran* 49:10)

As we will see later, the technical interpretation in Islamic economics is to assume interdependent utility functions in dealing with brotherhood. Quranic teachings play the most important role of all in setting out how Muslims are to act to make their brotherhood become a reality. The *Quran* has much to say about *Infaq*; charity and philanthropic contributions. For example:

> So fear Allah
> As much as ye can;
> Listen and obey;
> And spend in charity
> For the benefit of
> Your own souls,
> And those saved from
> The covetousness of their own
> Souls—they are the ones
> That achieve prosperity. (*Quran* 64:16)[27]

It has much to say, too, about the relationship between individual Muslims and their society, and it is clear that they should not be divided but act as one unit or one nation, as the following exemplifies:

> And hold fast,
> All together, by the Rope
> Which Allah (stretches out
> For you), and be not divided
> Among yourselves. (*Quran* 3:103)[28]

The utility functions of Muslims have been elevated not only toward their own pleasure but also to please Allah (SWT) as is reflected in the following:

> Those who spend
> Their substance in the cause
> Of Allah, and follow not up
> Their gifts with reminders
> Of their generosity
> Or with injury—for them
> Their reward is with their Lord;
> On them shall be no fear
> Nor shall they grieve. (*Quran* 2:265)

And:

> In most of their secret talks
> There is no good; but if
> One exhorts to a deed
> Of charity or justice
> Or conciliation between men,
> (Secrecy is permissible);
> To him who does this,
> Seeking the good pleasure
> Of Allah, we shall soon give
> A reward of highest (value). (*Quran* 4:114)

What, then, is gained by making charitable contributions (*Infaq*)? Clearly, it is aimed at pleasing Allah (SWT) but, as the following makes clear, the rewards to be reaped in the world hereafter for doing so are immense:

> The parable of those
> Who spend their substance
> In the way of Allah is that
> Of a grain of corn: it groweth
> Seven ears, and each ear
> Hath a hundred grains,
> Allah giveth manifold increase

> To whom He pleaseth:
>
> And Allah careth for all
>
> And He knoweth all things. (*Quran* 2:261)[29]

The rewards and incentives for cooperating in consumption seem to arise from each individual's reduction in their own consumption and bring an equal increase in the consumption of their brothers in Islam. It can be shown that despite the reduction in the donor's own consumption, his/her utility will increase in addition to the receiver's utility.[30] Muslims have a strong conviction that the promise of rewards beyond imagining in the hereafter will never be broken; hence their large-scale commitments to charitable contributions.[31]

Incentive to Cooperate in Production: An Islamic Interpretation

The following example is designed to demonstrate whether or not cooperation in production is beneficial to the parties involved. Suppose that management (M)[32] proposes to the labor force (L) a profit-sharing arrangement, in the hope that it might induce the workers to work hard. As we saw earlier, under a proper Islamic system, mutual trust guarantees cooperation at every stage of play. It also has to do with the realization from both parties that any increase in effort[33](e) on the part of L will increase profits, which is to the benefit of both. Knowing that labor's effort has to be internalized in an environment provided for by the management (that is, "the firm"), without which L and (e) become irrelevant, the management foresees higher profits in its proposal. The common resource here is profit. This is a two-person game which can best be illustrated by the well-known Prisoners' Dilemma Game. Each of the players has two pure strategies: to "cooperate" (C) or "defect or not to cooperate" (N). Each player's dominant strategy is N; that is, N is a strategy irrespective of the other's strategy. However, players realize that both will gain if they both play C. When played once, the game thus admits only one Nash equilibrium:[34] that both players "defect." Nonetheless, the equilibrium outcome is worse for both players than the strategy pair where both "cooperate." Figure 1.3 shows how cooperation between labor and management works in a way which guarantees benefit to both sides. The iso-profit line with no cooperation is $\{\prod (n), \prod (n)\}$ and total profit is $\prod (n)$, all of which goes to the owner-management (M) where the management's total utility is U(M); a corner solution. However, after sharing profits, as suggested by management, labor

Figure 1.3 Incentive for cooperation between management and labor to share profit
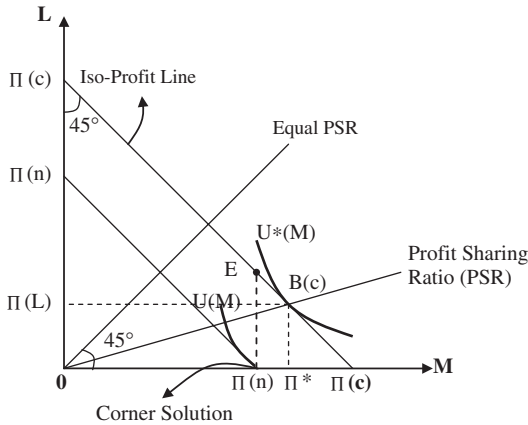
Notes:

a. $\prod (n)$ = Profit before cooperation
b. $\prod (c)$ = Profit after cooperation
c. $\prod (n) \prod^*$ = Profit gain to management from cooperation
d. $\prod (L)$ = Profit gain to labor from cooperation
e. $E\prod (n)$ = Maximum amount of profit that management is willing to share with labor

tries to increase it in two ways:[35] a) by putting in more effort (e), and hence more output and more total revenue; and b) reducing cost by taking care of the machinery and equipment with which it works, with the ultimate result of increased profits from the position of no cooperation $\prod(n)$ to $\prod(c)$ with cooperation. The profit-sharing ratio (PSR) line is drawn from the origin to the highest indifference curve $U^*(M)$ which is tangent at $B(c)$. The slope of this line shows what percentage of the profit $\prod(c)$ goes to management and what percentage to labor. It is seen that $B(c)$ is the equilibrium point in that it is tangent to the highest indifference curve of the management, which increases the management's profit from $\prod(n)$ to $\prod^*$, with $B(c)\prod^*$ going to labor. Given the assumptions made here, it will be noted that the highest amount of profits that management is willing to pay labor is determined at point E, in that any further share given to labor reduces its own profit.

Let us digress here for a moment and say a few words about the extent of cooperation in the Islamic economic system. To consider cooperation as one of the manifestations of externality (in production) covers all economic behavior in such a system. We believe that this

system provides externalities in all aspects of economic life which have important bearings on other activities. As explained above, cooperation in both consumption[36] and production[37] are vivid examples of externalities in this system and have important implications. In a simple model in which there are two groups, labor and management (and, of course, their families), labor has a dual role to play: as the supplier of the commodities produced and as a consumer of the goods supplied, whose income is directly influenced by its share in the profits earned by firms. These two effects, combined with the elimination of interest and speculation which makes the equality between saving and investment at all levels (S≡I) possible, will be able to simultaneously increase aggregate demand (AD) and aggregate supply (AS). These schemes, peculiar to the Islamic economic system, appear to remove part, if not all, of Keynes's "objectionable features of capitalism." All these features make the system self-regulating and self-adjusting through substituting cooperation for conflict. It further shows the essence of the increasing-sum game of the Islamic system in an environment where new techniques and innovations are assumed to expand the production frontiers. Undoubtedly, players' knowledge about each other's strategy sets, information and preferences are of utmost importance for choosing whether to cooperate or defect in each game.

The theory of infinitely repeated games has, in fact, flourished over the last 40 years through the collaborative research of Robert Aumann, Michael Maschler and Richard Stearns into the dynamics of arms-control negotiation.[38] Other strands of the literature examine the possibilities of long-run cooperation when players are impatient and only have access to noisy signals about past behavior.[39] When studying cooperation among agents, whether these are firms in a capitalist system or farms sharing a common grassland or irrigation system (see Ostrom 1990), the theory of repeated games is now the benchmark paradigm.

Our example presented above can be described in the context of the game theory framed as in Figure 1.4, where it is assumed that both management (M) and labor (L) are strategic; that is, that they are rational and willing to change their behavior in order to maximize their own benefits through the common goal of maximizing the firm's total profits. The strategy [L (n), M (n)] shows when there is no cooperation between management and labor, which produces 100 units of total profits going exclusively to the management.

Figure 1.4   Pay-off matrix of labor and management

L,M	M(n)	M[C(1)]	M[C(2)]	M[C(3)]
L(n)	(0,100)	(10,90)		
L[C(1)]	(0,150)	(20,130)		
L[C(2)]			(30,160)	
L[C(3)]				(45,185)

Notes:

1. Numbers 1, 2, and 3 in parentheses show the increase in the level of cooperation in the repeated game which results in both higher class and total profits.
2. Strategy or promise has to be distinguished from action. Players observe each other's actions, but not their strategies.

The strategy {L(n), M(C)[1]]} shows that despite management's cooperation in promising to give labor 10 units of its profits, labor does not cooperate, which is why profits have been kept intact. The strategy {L(C)[1], M(n)} shows that despite labor's cooperation in putting in more effort, which leads to higher profits (150 units), management is not willing to share this. But when both trust each other and cooperate, then the strategy {L(C)[1], M(C)[1]} will be chosen. The subsequent strategies along the diagonal of the matrix show that the higher the cooperation between management and labor, the higher will be the total profits, which increases the shares of both players simultaneously. These subsequent strategies can be followed after the games are repeated. This game is neither of the zero-sum nor constant-sum type. It is a combination of zero- and increasing-sum games. This is an economic problem that has cooperative elements present in the conflict situations of orthodox economic theory. In this game, there is a strong incentive for both players to cooperate and is the kind of situation that is of interest to economists. Again, it shows that it is a game where the outcome of cooperation is not equally distributed. Using Rawls' principles of what is "just," the "unequal distribution of any or all of these [strategies] is to the advantage of the least favored"; that is, labor.[40] Finally, our example is not of the bargaining type,[41] which has elements of both conflict and cooperation. Rather, it is mostly based on mutual trust, with no

threat of any sort. It is more of a dialogue than bargaining which, in certain circumstances, brings about advantage to both players at the same time.

Our example can also be explained using two overlapping circles in a Venn diagram, where the size of the overlapped area shows the result of mutual trust and cooperation from both sides. The excess area compared to two non-overlapping Venn diagrams has to be divided between management and labor. The final mutually agreed-upon ratio will be determined in the long run using repeated games. Obviously, the two players will not choose the strategy of "not to cooperate" as long as they both realize that there is nothing to lose and everything to gain if they both cooperate.[42] However, there is potential loss if they both decide not to cooperate. When both players are assumed to be actively involved in the game and the free-rider problem is absent, then "the tragedy of the commons"[43] will not emerge. In the final analysis, mutual cooperation leads to higher payoffs to both players than not cooperating.

The example just mentioned has three distinct characteristics: (a) it is a mixture of mutual trust and one-way trust, (b) the strategies show that there is plenty of room for mutual cooperation, and (c) the pursuit of individual advantage (self-interest) leads to socially undesirable outcomes.

The interaction between cooperation in consumption and cooperation in production and their combined effects produce a large part of the externalities[44] we expect to be present in the Islamic GCS.

EQUIVALENCE BETWEEN FUNCTIONS OF AND DEMAND FOR MONEY

> *Only in the event of money being used solely for transactions and never as a store of value, would a different theory become appropriate.*
>
> J. M. Keynes

It has become a kind of blueprint for conventional money and banking textbooks to talk about the functions of money in the early pages and demand for money in the later pages, without any remarks regarding the possible relationship between the two. In this section, we will

explore whether this gap can be bridged. We begin by removing the artificial wall between the two.

Table 1.6 Demand for, and functions of, money

Types of Demand	Functions
1. Transactions	1. Medium of Exchange
2. Precautionary	2. Unit of Account
3. Speculative	3. Store of Value

Looking at the functions, or responsibilities, of money listed in Table 1.6, it seems logical to ask a simple question: How can these functions be accomplished without money being given the appropriate power and authority to undertake the responsibilities? There has to be somewhere, somehow, some authority given to money to be able to carry out these functions. More importantly, this authority and power has to correspond exactly with these functions. Without the necessary authority, no function can be performed. Logically, there has to be a balance and equivalence between the responsibilities and authority of money. It seems to me, however, that there has been very little, if any, attempt in the conventional textbooks to explore this vital question. The only way to find the answer is to break down, once and for all, the wall between the functions and demand for money. The different kinds of demand for money exist because of the power that has legally been given to money to perform the three conventional functions (hence the expression "legal tender"). If (the capitalist) legal system had not given money this power, it would have been impossible for money to perform these functions. What I am suggesting here is that for "types of demand for money," we should read "types of legal authority given to money."

By removing this wall, it is possible to construct a very different approach, as illustrated in Table 1.7 below.

Table 1.7 Functions and demands for money

Legal Power of Money	Functions of Money
1. Transactions Demand	1. Medium of Exchange
2. Precautionary Demand	2. Unit of Account
3. Speculative Demand	3. Store of Value

The direction of the arrows shows the following:

i.   With the legal power given to money to be transacted upon at present and in the future, the two functions of money—the medium of exchange and unit of account—could be accomplished.
ii. If money had not been given the power to be speculated upon, it could never be used as a store of value. That is, there is a one-to-one correspondence between the speculative demand for money and its store-of-value function.

While the equivalence between the two sets of seemingly unrelated concepts seems straightforward enough, I have had great difficulty in convincing people of this fact. In 1998, for example, during a three-month research contract at the Islamic Research and Training Institute (IRTI)–IDB in Jeddah, the majority of the scholars from IRTI and King Abdulaziz University found it difficult to grasp the concept. Whether there has been any development in this regard since then is unclear.

There is ample historical evidence to justify my reasoning method. Set out below are just a few examples from the rich literature which shows the one-to-one correspondence between store-of-value and speculation with money.

On the nature and functions of money, Professor J. A. Schumpeter observed:

> … many writers went out of their way to emphasize the store-of-value function of money. This is important because it raises the question how far the economists of that period were aware of the phenomenon that is called Liquidity Preference in the Keynesian economics of our own day. Marshall spoke of the law of hoarding according to which people's demand for gold hoards increases as its value rises… Occasionally he seems to have given thought to the fact that people sometimes fail to spend though they have the power to do so. Von Mises noticed in passing that money is sometimes held as an asset… Going further, Kemmerer averred… that "large sums of money are continually being hoarded" and that "the proportion of the circulating medium which is hoarded from time to time… varies with all the influences which affect… business confidence."

> Moreover, *Marshall and others, especially Fisher, were aware of the role that hoarding, in the sense of unwillingness to spend, plays in the mechanism of depressions. But only outsiders, such as Hobson, attached "critical importance" to it as a cause of disturbance in general and of employment in particular. Since it is this feature that constitutes the Theory of Liquidity Preference, we must, I think, credit—or debit—the introduction of the theory to Lord Keynes.* (Schumpeter 1994:1086–8; my italics)

This clear statement by an outstanding economist tells us everything we need to know in this regard and this is reinforced by further historical evidence appended below.

In dealing with *speculation*, Professor Ackley observes:

> This demand for money has to be seen as a demand which is additional to the "transactions demand for money" envisaged in the Classical quantity theory... But this new demand for money is a demand for idle balances or for money as an asset rather than as a mere medium of exchange... Thus the total demand for money has two parts—a transactions demand... and an "a*sset" or "speculative" demand*. (Ackley 1969: 180; my italics)

This statement can be summarized as follows:

$$\text{Idle balances} \equiv \text{asset demand for money} \equiv \text{speculative}$$
$$\text{demand for money}$$

Professors Aschheim and Hsieh (1969:157, 161 and 187) have found synonimity among concepts: store of value, asset demand for money, liquidity preference, and hoarding. In brief:

$$\text{Store of value} \equiv \text{asset demand for money} \equiv \text{liquidity preference}$$
$$\equiv \text{hoarding}$$

Professor Gail E. Makinen defines hoarding as "the act of accumulating one's wealth in a money form. Money previously in active circulation is withdrawn and held rather than spent on goods, services, or bonds" (Makinen 1977: 40–1). "In the Keynesian model,"

she says, "a rise in hoarding is merely another name for a rise in the desire to hold speculative balances" (Ibid.: 182).

To summarize:

$$\text{Hoarding} \equiv \text{speculative demand for money}$$

While Professor D. Fisher did not take an independent stand, despite his thorough analysis of the definition of money, he nevertheless cited many references in regard to the concepts we are concerned with here (Fisher 1911: 21 and 22–3). These may be summarized as follows:

$$\text{Store of value} \equiv \text{asset} \equiv \text{economic good}$$

However, he was very firm in his assertion that "money is clearly a stock. Money, however, is also an economic good" (Ibid.: 22).

Professors Pierce and Shaw write that "the demand for speculative cash balances (liquidity preference) is inversely related to the [interest rate] on bonds" (Pierce and Shaw 1974: 13). Of Keynes' analysis of the demand for money, they add:

> *the speculative motive is derived from money's use as an asset, as a store of value... People want to hold money, Keynes said, not only for transacting current business but also as a store of value or wealth... The reason... is the existence of uncertainty: uncertainty as to the future rate of interest... Once the future rate of interest is uncertain, people have the opportunity to speculate in the hope of securing profit from knowing better than the market what the future will bring forth.* (Ibid.: 90 and 91; my italics)

They further observe that:

> Keynes' analysis of the demand for money is clearly, therefore, divided into two parts, one part approaching money simply as a means of payments, the other as an asset. Individuals, according to this view, are seen to hold some money for transaction purposes and some for its use as a store of wealth. (Ibid.: 99)

Briefly:

$$\text{Speculative motive} \equiv \text{store of value} \equiv \text{demand for money as an asset}$$

Professors Rowan and Mayer in their analysis of the demand for money write: "... we divide idle balances into two classes: asset balances and speculative balances... asset balances... [are] related to money's ability to act as a store of wealth" (Rowan and Mayer 1972: 188–91).

In brief, they have also endorsed the synonimity of some other concepts related to the store-of-value function of money put forward by other writers.

Once again, we return to Lord Keynes and his highly original work on the concept of liquidity preference and other related "objectionable features of capitalism" as a direct and inevitable consequence of interest. The importance of the contribution made by Keynes in his *A Treatise on Money* (1930) has, as we saw earlier, been widely recognized.[45]

How Keynes arrived at this position is interesting. In the preface to the *Treatise*, he writes:

> The ideas with which I have finished up are widely different from those with which I began. The result is, I am afraid, that there is a good deal in this book which represents the process of getting rid of the ideas which I used to have and of finding my way to those which I now have. (Keynes 1930: vi)

Some economists believe that Alfred Marshall laid the foundation not only for the Keynesian liquidity-preference theory, but also for the post-Keynesian developments in integrating the theory of demand for money into a "general-asset" theory (Marshall 1923: Chap.10: 44). However, he dropped the asset or wealth consideration on the very next page, apparently, not recognizing the full implications of his pioneering formulation (Aschheim and Hsieh 1969: 171).

In *A Tract on Monetary Reform*, Keynes considered the quantity theory a fundamental truth. "Its correspondence with fact," he says, "is not open to question" (Keynes 1923: 74). Like Marshall, Keynes concentrated on the medium-of-exchange function of money; the speculative demand for money is entirely absent from the *Tract*.

The influence of Keynes' *General Theory* is central to a better understanding of the true nature of capitalism. Our remaining task here is to look briefly at whether there is any similarity between liquidity preference and speculative demand for money as formulated by Keynes. We have shown already the equality of the store-of-value function of money and liquidity preference. There is no better source

than Keynes himself on the synonimity of speculative demand for money and liquidity preference:

> Let the amount of cash held to satisfy the transactions and precautionary motives be M (1), and the amount held to satisfy the speculative motive be M (2). Corresponding to these two compartments of cash, we then have two liquidity functions L (1) and L (2). L (1) mainly depends on the level of income, whilst L (2) mainly depends on the relation between the current rate of interest and the state of expectation. Thus
>
> $$M = M(1) + M(2) = L(1)Y + L(2)(r)$$
>
> where L (1) is the liquidity function corresponding to an income Y, which determines M (1), and L (2) is the liquidity function of the rate of interest r, which determines M (2) (Keynes 1964: 199–200).

On other occasion, Keynes calls the Liquidity Function L (2), the propensity to hoard (Ibid.: 208). To Keynes, hoarding may be regarded as a first approximation to the concept of liquidity preference (Ibid.: 174).

He further states,

> At this point, however, let us turn back and consider why such a thing as liquidity preference exists. In this connection, we can usually employ the ancient distinction between the use of money for transaction of current business and its use as a store of wealth… There is, however, a necessary condition failing which the existence of a liquidity preference for money as a means of holding wealth could not exist. (Ibid.:168–9)

Having established the synonimity and equivalence of store of value (or wealth), liquidity preference (holding idle-cash balances), speculative demand for money, and hoarding, we can now construct the triangle illustrated in Figure 1.5.

Following Keynes, we have called this triangle the "Triangular Trap" in that whenever any one of these concepts is being discussed, the other, synonymous, concepts follow naturally. In particular, the store-of-value function of money is nothing but speculative demand

for money, liquidity preference, or hoarding. In brief, the trap shows:

$$\text{Store of Value} \equiv \text{Speculative Demand for Money}$$

$$\equiv \text{Liquidity Preference} \equiv \text{Hoarding}$$

Figure 1.5   The triangular trap
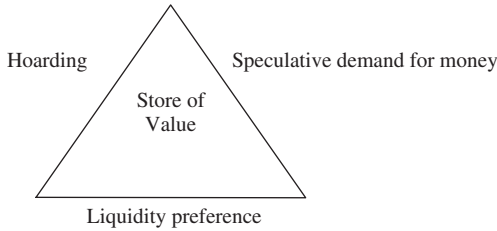
The store-of-value "Trap" is thus made up of the three other equivalent concepts. On this basis, therefore, the following assertion can be made:

> **Assertion:** Store-of-value makes a "triangular trap" whose equal sides are "hoarding," "liquidity preference" and "speculative demand for money."

It will be shown shortly that the string that ties these concepts in a systematic manner is nothing other than the rate of interest.

At this point, it remains to define two concepts—*speculation* and *interest rate*—and their mutual relationships, if any. Webster's Dictionary (1971) gives the following definition of "speculation": "The act of speculating or forming conjectures about a subject; the process or act of conjectural contemplation... A financial investment which is hazardous [but] offers the possibility of large profits; the act of buying and selling stocks or commodities with the hope of profiting from favorable market prices."

In dealing with hoarding and liquidity preference, Keynes maintains:

> The spectacle of modern investment markets has sometimes moved me towards the conclusion that to make the purchase of an investment permanent and dissoluble... might be a useful remedy for our *contemporary evils*. For this would force the investor to direct his mind to the long-term prospects and to those

only. But a little consideration of this expedient brings us up against a *dilemma*, and shows us *how the liquidity of investment markets often facilitates, though it sometimes impedes, the course of new investment.* (Keynes 1936: 160; my italics)

Despite the fact that speculation in any market is not to be considered an investment act, Keynes has unfortunately laid the foundation of a misleading similarity between them. However, quite aptly, he does not endorse speculation, and by suggesting it to be "permanent and dissoluble" tries, correctly, to make it "a useful remedy for our [that is, capitalist] contemporary evils" instead of instant changes that take place in stock exchange markets. On this, he writes: "It is said that, when Wall Street is active, *at least a half of the purchases and sales of investments are entered upon with an intention on the part of the speculator to reverse them the same day.* This is often true of the commodity exchanges also" (Keynes 1936: 160 footnote; except for "the same day," my italics).

He then admits that speculation produces instability. He also uses "hoarding" in the same sense as "lending money on interest" (Ibid.: 160). When it comes to hoarding, after making it "as a first approximation to the concept of liquidity preference," Keynes shows the intention of the public toward hoarding as follows:

> All that the propensity of the public toward hoarding can achieve is to determine the rate of interest at which the aggregate desire to hoard becomes equal to the available cash. *The habit of overlooking the relation of the rate of interest to hoarding* may be a part of the explanation why interest has been usually regarded as the reward of not-spending, whereas in fact it is the reward of not-hoarding. (Ibid.: 174; my italics)

To complete the picture for those who still might be having some difficulty understanding the essential issues and concepts, we need just a few assertions made by some master economists. Professor Ackley, for example, writes: "*Speculation—if mistaken—tends ultimately to be self-correcting in any commodity market; but what Keynes further recognized was that the self-correcting mechanism is either absent or very slow and painful in the case of interest rate*" (Ackley 1969: 177; my italics).

Many, if not all, Muslim economists have failed to recognize both the relationship between the rate of interest and speculation and the

importance of Ackley's phrase "if mistaken." This has led them to the wrong conclusion that speculation is allowed in an interest-free Islamic economic system.

In his later discussion, Ackley observes: "Many (perhaps most) later Keynesians have agreed with Keynes' own apparent judgment that *the really crucial cause of unemployment was the speculative demand for money*" (Ibid.: 405; my italics). Professor Hicks, too, admits that "The demand for money itself is necessarily always speculative in a wide sense" (Hicks 1939: 56).

At this stage, we need to briefly explore the reason why Lord Keynes asserted that "... for every durable commodity, we have a rate of interest in terms of itself—a wheat-rate of interest, a copper-rate of interest, a house- rate of interest, even a steel-plant-rate of interest" (Keynes 1936: 222).

My understanding of this statement is that in speculation, both the stock and the commodity in question function as a medium to exchange money for money.

Formally, all speculative transactions could be thought to act as M–C–M, where M is money and C is stock or commodity. Using Keynes' proper definition of the rate of interest (Keynes 1936: 166–7), we can easily write the relationship between the rate of interest and speculation in the form:

$$\frac{M(t) - M(t\text{-}1)}{M(t\text{-}1)}$$

where t is time.

For any speculation to be profitable, M(t) must be greater than M (t-1); obviously loss occurs if M(t) becomes less than M(t-1). Even if "at least a half of the purchases or sales of investments are entered upon with an intention on the part of the speculator to reverse them the same day," the above formulation can easily be changed to read:

$$\frac{M\,(2) - M\,(1)}{M\,(1)}$$

What is important to realize is that in such activities, it is actually the money which is exchanged for money, *as if* a loan is taking place and a stock or commodity is used as "collateral" in this disguised loan contract. This implies, if I am correct, that *all the transactions taking place in the secondary markets make those markets nothing more than money markets*.

Let us define "speculation" once and for all: *Speculation is an act of buying and selling stock or a commodity with the hope that the buying price is the lowest and selling price the highest expected.* In the above formulation, therefore, M (2) is the highest expected selling price and M (1) is the lowest expected buying price.

It is generally understood that the purchase of a stock issued and sold in a primary market is an act of investment on the basis that investment is defined as any positive change in the stock of capital. Obviously, the holder of a stock is allowed, in Islam, to sell that stock at any time in order to exchange one asset item for another. As such, transactions in primary markets do not exhibit speculation in the sense defined above.

With all of this in mind, we want to see whether or not speculation is permissible in Islamic settings. To answer this inquiry, we go back to the above formulation and realize that in speculative activities, it is really the money that is exchanged for money. We have to make sure that the stock or commodity used in such transactions (that is, buying and selling) does not deceive us. What comes out of my formulation is rate of interest (r) in terms of the stock or commodity being exchanged. This rate, in general, is:

$$\frac{M\,(t) - M\,(t\text{-}1)}{M\,(t\text{-}1)} = r \qquad (1\text{-}8)$$

It does not matter which one of the stocks or commodities performs the function of the medium of exchange of money for money. The rate so obtained serves as a signal to the speculator in deciding either to sell or buy something. The fact that all speculative activities are based on expectations of the price of the "thing" being exchanged enables us to formally define speculation as above.

It should be clear that trade is fundamentally different from speculation. A trader who buys and sells commodities in a lump tries to buy them at the lowest possible prices, but is not supposed to hold them until such time as they can be sold at the highest possible price. The difference between trade and speculation should be clear from, among other things, both the "lumpiness" of the transaction involved and in the expectation of prices in deciding to sell. Trade is a productive act and its importance cannot be exaggerated, to the extent that economic growth seems unlikely in its absence. Unlike trade, speculation is a destructive act; more importantly, it is, according to Professor Ackley, the main cause of unemployment (Ackley 1969: 56).

The intention of the speculator is not to buy stocks or bonds for himself or for trade but merely to exchange money for money and gain something from the difference between the buying and the selling prices. In the secondary markets, be it in money or commodities, a positive effect attributed to investment never takes place, despite the fact that Keynes inadvertently used the word "investment" in such circumstances. As fundamentalists, as all of us have to be, we have to admit that speculation in any one of the secondary exchange markets does not have anything to do with changes in the stock of capital. It is just converting money [(M (1)] for [M (2)], where M (2)>M (1), via a commodity. Keynes' unfortunate choice of the word has led many young and inexperienced economists to confuse money market with capital market. The primary markets in which stock is exchanged for the first time are capital markets, but all secondary markets are money markets from which the rate of interest will emerge. In conclusion, transactions in primary markets do not exhibit speculation in the sense defined above; however, any kind of transaction which will, one way or another, entail speculation is not allowed in Islam in that it bears interest.

To remove any doubts about the definition of interest (rate) and its connection with speculation, we need to go back to the most reliable source. Keynes defines the rate of interest as:

> … the reward for parting with liquidity for a specified period. For the rate of interest is in itself nothing more than the inverse proportion between a sum of money and what can be obtained for parting with control over the money in exchange for a debt for a stated period of time (Keynes 1936: 167).

Symbolically, this can be written as:

$$\frac{1}{\dfrac{M(t\text{-}1)}{M(t)-M(t\text{-}1)}} = \frac{M(t) - M(t\text{-}1)}{M(t\text{-}1)} = r \qquad (1\text{-}9)$$

which is exactly identical to (1-4) above.

This enables us to refine our definition of interest on money in a manner identical to Keynes' own definition, to which we stick throughout the book:

> **Interest (*Riba*):** Any amount in excess of the principal amount of a loan the borrower is obliged to pay the lender after some time has elapsed.

This is, of course, fundamentally prohibited in Islam.
The above definition embodies four elements:

- Excess; no matter how much
- A loan contract; whether implicit or explicit
- Obligation on the borrower to pay the excess
- A passage of time; no matter how long.

An important caveat is in order here. We should not allow ourselves to be deceived by the intermediary function performed by a stock or commodity in an "implicit loan" not clearly specified, which is what customarily takes place in the stock exchange markets.

The most important task undertaken by Keynes was to show that in the presence of interest rate determined in the money market, speculation necessarily takes place. This was his robust attack on the classical economists who failed to realize the causality involved. He, then, succeeded in finding the main cause of the stock exchange crash 1929. The business cycles that have occurred frequently—with different durations and amplitudes—in capitalist economies since the Great Depression, and for which no real remedy has been prescribed, lead us to the following assertion:

> **Assertion:** To treat the monetary sector independently from the real sector will lead the economy into unstable phases arising from "uncertainty as to the future course of the rate of interest," as Keynes so aptly put it. (Keynes 1936: 201)

After Keynes' successful explanation for the development and causality of speculation, he left an easy task for us to show that the reverse also holds—as we have done above in (1-5). The following assertion seems appropriate here:

> **Assertion:** Speculation, in any market, produces a rate of interest in terms of itself. Keynes proved the opposite; therefore, interest is both a necessary and sufficient condition for speculation to take place.

The analysis in this section enables us to make a few other related assertions:

> **Assertion:** Store-of-value makes, of itself, a "triangular trap" whose equal sides are "hoarding," "liquidity preference," and "speculative demand for money"—none of

which can be studied independently from the rate of interest.

Assertion: Speculative activities with any durable commodity produce the rate of interest in terms of themselves. This is done on the basis of the M–C–M relationship. This is nothing but indirect demand for money; that is, M for M. Any attempt to derive demand for money in an Islamic interest-free economic system is not only futile and misleading but it is also the result of confusion and misunderstanding.

A corollary to the above assertions is that, in the absence of interest (and hence speculation) in any market, stability, full employment and a self-correcting mechanism are brought about in an Islamic economic system. This is, in fact, the central theme and the message of this book.

Before ending the analysis and making our final assertion, it is important to exercise care when speaking about the store-of-value concept. The meaning of the concept is taken literally by some writers to mean "not spending today, but tomorrow." This conveys nothing more than the idea of saving, whether in a bank or not. Store-of-value has nothing to do with saving. Professor Ackley eliminates any doubts about this by stating: "... there is no necessary connection between saving and hoarding; I can save without hoarding, hoard without saving, or even save and dishoard, hoard and dissave" (Ackley 1969: 154).

Throughout the book, we take the concept to mean the same as the master economists have always assumed, and arrive, logically, at the following assertion:

> **Assertion:** In an interest-free Islamic economic system, money can no longer perform the conventional store-of-value function. No speculation in any market is allowable because of the interest (rate) that it naturally bears. All in all, there is a one-to-one correspondence between the store-of-value function of money and speculative demand for money.

We have now reached a point that enables us to say more about the attributes of the Islamic economic system compared with those of capitalism. Unlike "a grand cooperative" Islamic system, capitalism can be visualized as a zero-sum game in which for every "gain" there has to be found a "loss" of equal amount. Speculation in any market

brings about income for the major speculators behind the scenes. The "gains" are enjoyed by a few and the "losses" are borne by the rest of society. The money whirlpool which emerges from every speculative activity does not allow the equality between saving (S) and investment (I) to hold.

This means that speculation (and the interest-rate bearing on it) produces a savings gap; that is, S > I. Hence, the necessary condition for full employment is never satisfied. The loss to society is the cost of unemployment.

It is worth noting that the argument about the savings gap had no precedent prior to the Great Depression.[46] This meant that the problem of speculative demand for money introduced by Keynes as an instrument to attack the classicists was denied. Inventory investment is classified by some economists into three categories: raw material, commodity in the production process, and finished product. The question is: How and why has inventory been used as "investment" in these three categories? Investment is defined as a positive change in the stock of capital from the preceding year; that is:

$$I[t] = \Delta K[t] = K[t] - K[t\text{-}1] \qquad (1\text{-}10)$$

where K[t], as an example, is what that appears in the production function:

$$Q = f(K[t], ...) \qquad (1\text{-}11)$$

The question is how a world commodity in the production process and finished products can appear in (1-10). Even if it is justified to include raw materials in the production function, is this compatible with the definition of investment in (1-10)? It seems that K[t] in (1-11) plays the role of "joker" to solve the unjustified problem of inventory investment in order to fill the savings gap some economists are not willing to admit that exist. Didn't Western economists know before the Great Depression that there was such a thing as "inventory investment" which should have been included in the definition of investment? Why did this recognition come only after the Depression?

There are many other objections directed against bringing inventory investment into play but they do not fall within our current scope.[47] However, given that the equality of S and I has been proved, proponents then have to deny the existence of the money market and

the speculation in it that produces the money whirlpool. Since the rate of interest is derived from everyday speculative activities in the money market, such arguments are self-defeating.

The social cost of speculation goes far beyond its private benefits. By allowing interest (rate) to operate, the capitalist system gives speculators the opportunity to hunt the most "profitable" monetary opportunities and inflict the most harmful consequences on society. The proper expected rate of interest emerging from speculation, particularly in the money market, is necessarily higher than the going rate in any other money markets. This gives another reason for the savings gap to deepen even further, other things being equal. The unavoidable consequence of allowing interest and speculation is unemployment. The Japanese experience of having an unemployment rate above 5 percent at a time of almost zero interest not only failed to refute Friedman's rule but also provided valid evidence of the above claim. The causal connection between interest (rate) and speculation has slipped the minds of Japanese monetary authorities. Their failure to abolish all kinds of speculation from their economy has resulted, inevitably, in unemployment. In other words, the money whirlpool still exists in Japan, which does not allow the equality between saving and investment to prevail.

We are now in a position to record the following assertions:

> **Assertion:** The money whirlpool resulting from speculation in the money market does not allow the equality between saving and investment to hold. The natural consequence of this is unemployment.
>
> **Assertion:** By allowing interest (rate) to prevail in a society, speculators are given the opportunity to hunt the most "profitable" chances, inflicting an equivalent loss to society in a zero-sum game.

There are two reasons to believe that in an interest-free Islamic economic system, money cannot be speculated upon: firstly, it is an impure public good; and, secondly, speculation on any commodity in any market which brings forth with it a rate of interest is totally prohibited. These factors bring about equality between saving and investment, the consequence of which is full employment.

> **Assertion:** The abolition of interest and speculation in an interest-free Islamic economic system eliminates the store-of-value function of money. This reduces the demand for money to irrelevance.

Unlike capitalism, the Islamic economic system provides the necessary conditions for money to perform its logical and universally accepted functions, as illustrated in Figure 1.6 below.

Figure 1.6   Transaction demand for and supply of money
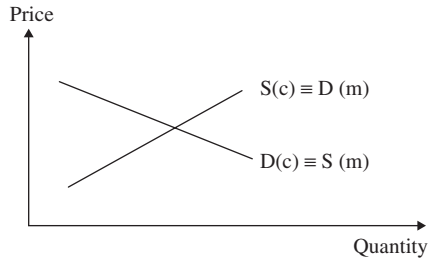
Behind any schedule for a commodity [D(c)] there exists an equivalent supply value of money [S (m)]. Likewise, behind any supply schedule of commodity [S(c)] there exists a demand for money of the value [D (m)]. This reminds us of Hicks' statement that: ''The demand for money itself is necessarily always speculative in a wide sense'' (Hicks 1968: 56). It also evokes Pierce and Shaw's assertion that:

> People want to hold money, Keynes said, not only for transacting current business but also as a store of value or wealth... The reason... is the existence of uncertainty: uncertainty as to the future of the rate of interest... Once the future of the rate of interest is uncertain people have the opportunity to speculate in the hope of securing profit from knowing better than the market what the future will bring forth. In his analysis of the speculative motive, Keynes considered only one alternative to money as a store of value, namely bonds. (Pierce and Shaw 1974: 91–2)

Interest is an obvious attribute of both money and bonds. Less obvious is speculation, which, as Keynes pointed out, is one of the most profound characteristics of capitalism and the root cause of the Great Depression. As we have demonstrated above, the clear intention of speculators in both buying and selling "commodities" is not to hold and consume them but to make profit through the exchange of money for money.

From the point of view of Islamic teachings, the importance of *intention* in transactions cannot be exaggerated. The intention of traders is not hard to trace back in some cases. Uncertainty—"*artificial risk*"—is an essential element in all

speculative activities, the sole purpose of which is to make the environment suitable for a few speculators to make a "profit." Such a risk manifests itself directly in the rate of interest. If my understanding of this point is correct, it makes interest rates even more volatile. What a sound and stable economic system needs is as much certainty as possible for all economic agents. Artificial risk might explain frequent variations in the investment function, via its mutual relationship with interest rates, in capitalist economies. This has to be added to the money whirlpool produced as a result of speculation; combined, these factors do not allow full employment to be maintained.

Any kind of artificial risk attached to the expectation and put into the future course of interest rates will transform itself into the actions of speculators. Speculators—and the word here is used in a morally neutral sense to mean anyone who buys a financial asset at the lowest expected price in the hope of selling it at a higher expected price in the near or distant future—typically operate on borrowed money. Obviously, the return on such activities must be higher than the interest rate on borrowed funds. Furthermore, sane speculators never bet against central banks, which are the center of the entire financial universe in that they create money, regulate credit, and often decide whether troubled private banks will live or die. The central banks are, in fact, playing in the market with other people's money.

Every so often, naked greed evolves into a speculative mania and begets an equity bubble. Bubbles are the consequence of speculative activities, and both are dangerous to the economy. For proof of this, one need look no further than the two most famous bubbles of the twentieth century: the famous 1929 debacle in the United States and the equally notorious Japanese Nikkei implosion of 1989. History will not be mocked, and the future is no different.

The literature provides ample evidence of the adverse effects of speculation on the economy. The causality chain in capitalism can be shown to be of the following type:

Interest «——» Speculation ——» Unemployment

——» Bubble ——» Disaster

As I understand it, in an Islamic framework, there might be two reasons for speculation to be abandoned. One is definitely the strict abolition of interest and the other, the artificial risk inherently

attached to speculation. Therefore, the following assertion seems appropriate at this point:

> **Assertion:** Any artificial risk is against Islamic economic teachings; however, natural risks are endorsed. In every-day life, natural risks are those customarily covered by insurance companies.

This assertion may be used to explain: (1) the strict abolition of *gambling* in Islam because of its artificial risk-bearing nature; and (2) the compliance with *Shariah* law of the profit-and-loss sharing (PLS) contract. As long as such contracts are directly linked to investment in its strict sense, the risks involved are inevitable; hence endorsement by Islamic teachings.

It seems unfair to speak about "money" and not mention the man described by Keynes as the "unduly neglected prophet" (Keynes 1936: 353): Silvio Gesell (1862–1930), a successful merchant in Buenos Aires whose work contains flashes of deep insight. Keynes said of his work: "I believe that the future will learn more from the spirit of Gesell than from that of Marx" (Ibid.: 353–4). Gesell's *The Natural Economic Order* (1939) is in two parts—Money and Land—and is characterized, according to Keynes, by his "cool, scientific language; though it is suffused throughout by a more passionate, a more emotional devotion to social justice than some think decent in a scientist" (Ibid.: 355). He was a disciple of P. J. Proudhon (1809–65) and, like Proudhon, a critic of Marx's understanding of the nature of money. Specifically, Gesell felt Marx erred in not recognizing Finance as a separate class from Capital. Gesell was critical of the nature of money itself. Money grows because of interest. Capital depreciates because of the wear and tear of the physical universe. Gesell's solution was to change the nature of money. He believed that since money is a political instrument or social construction, it can be manipulated for the good of the creditor class. Gesell wanted the state to issue money that, like capital assets, depreciated. One scheme he proposed was "stamped scrip" or "stamped money"—dated bills that would lose a certain percentage of value each year unless new stamps were put on them. Keynes was of the belief that:

> The idea behind stamped money is sound. It is, indeed, possible that means might be found to apply it in practice on a modest scale. But there are many difficulties which Gesell did not face. In particular, he was unaware that

> money was not unique in having a liquidity-premium
> attached to it... Thus if currency notes were to be deprived
> of their liquidity-premium by the stamping system, a long
> series of substitutes would step into their shoes... There
> have been times when it was probably the craving for the
> ownership of land, independently of its yield, which served
> to keep up the rate of interest—though under Gesell's
> system, this possibility would have been eliminated by
> land nationalization. (Ibid.: 357–8)

Keynes is absolutely right in presenting the difficulties facing stamped money. It seems, though, that he himself went a little too far in his suggestion that the nationalization of land would remove the problems in Gesell's system. What is needed most is to liberalize or "nationalize" (to use Keynes' terminology) money from the yoke of interest which has artificially overloaded it. We need to know more about how money can be managed in the absence of interest. This would require little more than bringing money back down from the ivory tower it has long (and unjustifiably) occupied to its proper position. If "depreciation" refers to the physical aspect of money, Gesell is right in stating that everything depreciates except money. But what about its purchasing power over time, which hurts the poor most? One has to understand that, contrary to Gesell's idea, it is the interest-bearing nature of money that constantly pushes its purchasing power down.

Albert Einstein was absolutely right in stating that the most powerful force in the universe is the power of compound interest. Let us add to this the following: the most destructive economic variable is compound interest.

Gesell's solution of stamped money aims only at bringing money down to the position where it should depreciate like everything else. But even if this could be implemented, what is there to prevent further speculation on money during the two consecutive dates of the stamping period? What would his solution be for "many other articles" not to be speculated upon? One would finally reach the point where interest has to be totally abandoned.

Before concluding this section, we need to look back once more and see what we have inherited from our teachers. Historical evidence shows that economists have rarely, if ever, given the following statement from Keynes the thorough consideration it deserves:

> We have assumed so far an institutional factor which
> prevents the rate of interest from being negative, in the
> shape of money which has negligible carrying costs. In
> fact, however, institutional and psychological factors are
> present which set a limit much above zero to the practicable
> decline in the rate of interest... if the minimum level to
> which it is practicable to bring the rate of interest is
> appreciably above zero, there is less likelihood of the
> aggregate desire to accumulate wealth being satiated before
> the rate of interest has reached its minimum level. (Keynes
> 1936: 218–9)

If carefully examined and given full attention, Lord Keynes has
given us the solution we need. His solution to reach full employment
is as follows: "... it is to our best advantage to reduce the rate of
interest to that point relative to the schedule of the marginal efficiency
of capital at which there is full employment" (Ibid.: 375).

What would this rate be? Is there any reasonable answer other
than zero? But how can this important goal be achieved? It is the task
of this book to demonstrate how.

In his further analysis of the importance of keeping the rate of
interest down to zero, Keynes quite consciously observes:

> Interest to-day rewards no genuine sacrifice, any more
> than does the rent of land. The owner of capital can
> obtain interest because capital is scarce, just as the owner
> of land can obtain rent because land is scarce. But whilst
> there may be intrinsic reasons for the scarcity of land, there
> are no intrinsic reasons for the scarcity of capital... [I]t will
> still be possible for communal saving through the agency
> of the State to be maintained at a level which will allow
> the growth of capital up to the point where it ceases to be
> scarce. (Ibid.: 376)

NOTES

1 We shall use the term "money" to denote anything that people generally accept in exchange for
   goods and services.
2 See Table 1.1 in Miller and Van Hoose 1993: 13.
3 Literally, *Riba* means "increase" or "addition." Technically, in its simplest form it denotes any
   increase or addition to money borrowed as a condition of the loan laid down by the lender to
   be paid after a certain time period. Any guaranteed rate of return on a loan is *Riba*, which is
   prohibited in all forms in Islam. Usually, *Riba* and "interest" are interchangeable.

4 This is closely related to what has been called by economists "seigniorage," which is formally defined as the process whereby governments gain "profit" by placing a face value on a coin or other monetary token that exceeds its inherent market value. For similarity of above terms to fiat money, see, for example, Miller and Van Hoose 1993: 14–39.

5 See Bronfenbrenner 1971: 315.

6 Refers to the 23-year rule of the Prophet Mohammad (pbuh) in Mecca and Medina in the seventh century.

7 See Evans 1969: 73–220.

8 A form of Islamic tax designed to take away a part of the produce of the well-to-do and distribute it among the poor and the needy; an obligation on Muslims to pay a prescribed percentage of their produce to specified categories in their society, when their produce exceeds a certain limit called *Nisab* (see note 10 below). *Zakah* purifies the produce.

9 See, for example, Chapra 1985: 187; and Siddiqi 1973.

10 For an extensive treatment of money from a religious scholar's perspective, see Yousefi 1377 = 1998.

11 The minimum earning exempt from tax.

12 It seems that the justification for this verdict is based upon the fact that the metallic content of D-D must have been the same as their values in exchange. Otherwise society's rights would have been violated.

13 See, for example, Maalemos-Sonan 1932: 60; Al-Noqudul-Islamiah 1986: 3–6; and Ibn-Khaldun's Introduction (to history; in Persian), Tehran-Iran, 1353 = 1974: 114.

14 See Majlessi 1981: 3; Al-Aqde ul-Moneer: 89; Al-Nuqudul-Islamiah: 360; Al-Dinar-ul Islamia: 12; and Al-Hada-equlNaazerah 2:89.

15 Sadre, M. B. 1357 = 1978, Vol.2: 19

16 *Sunnah* are the sayings and actions attributed to the Prophet Mohammad (pbuh); *Hadith* is a record of those sayings and actions.

17 See, for example, Buchanan 1968: 1–58; Layard and Walters 1978: 195–200; Nath 1976: 86–141; Just, Hueth and Schmitz 1982: 283–6; Collard 1981: 30–5; Weitzman 1984: 123–9; Connolly and Munro 1991: 57–101.

18 Professor Kenneth Arrow argued that any social choice function should be complete and transitive in its rankings of options and that it should obey at least four criteria: (P) Pareto principle, (U) Universal domain, (D) Non-dictatorship, and (I) Independence of irrelevant alternatives. He further proved what was became known as Arrow's Impossibility Theorem that: no social choice function satisfying (P), (U), (D), and (I) can exist.

19 *Mudarabah* is a form of business contract in which one party brings capital and the other personal effort and expertise. The proportionate share in profit is determined by mutual agreement at the start. But the loss, if any, is borne only by the owner of the capital, in which case the laborer (entrepreneur) gets nothing for his labor. *Musharakah* is an agreement under which the Islamic bank provides funds which are mingled with the funds of the business enterprise, the depositors and others. All providers of capital are legally entitled to participate in the management but not necessarily required to do so. The profit is distributed among the partners in predetermined ratios. These ratios need not be proportional to individual contributions. Any loss, however, is borne by each partner in proportion to his/her contribution.

20 An interest-free loan given for either welfare purposes or for fulfilling short-term funding requirements. The borrower is only obligated to pay back the principal of the loan.

21 This section draws heavily on the work of Obreiter and Nimis 2003.

22 Obreiter and Nimis 2003: 5.

23 This kind of ownership, as I see it, refers to the type of organizations in which the labor is given the privilege of enjoying part of the profit while having no stake in the capital of the firm. This privilege exists as long as the individual is a member of the firm in question. This scheme gives workers the feeling that they are part of their own firm; hence, they put their utmost effort into it as if it is theirs. In the absence of such incentives, workers stand in the same rank as other factors of production.

24 I believe that this is most likely to happen in the long run. Its effectiveness in the short-run is rather doubtful.

25 See Hales 2004: 1.

26 For further details of this case see: Rapoport 1970: 191; Nash 1953; and Weintraub 1975. For more complex cases consult: Rapoport 1970; and Shapely 1959 and Shubik 1964.

27 See also *Quran* 2:3, 195, 215, 219, 254, 261, 265, 274; 3:134; 8:3; 14:31; 32:16; 34:39; 35:29; 57:7 and 10; and 63:10, among others.

28 See also *Quran* 10:19; 3:105; 5:3; and 49:10.

29 See also *Quran* 35:29; 13:22 and, in relation to alms (*Sadaqat*), 2:271; 2:276; 9:58; 9:60; and 9:104.

30 It was found more appropriate to deal with this issue more formally in later chapters. However, detailed analysis can be found in Toutounchian 1363 = 1984: 149–80.

31 Charity contributions have been analyzed from a different perspective in, for example, Glahe and Lee 1981: 124–28 and Hirshleifer and Hirshleifer 1998: 82–6.

32 We have used management of a firm, rather than stockholders, because of its responsibility to run the business in the most profitable way possible. It is well understood that management and ownership have been separated in corporations, with each having different responsibilities.

33 We distinguish between labor work and labor effort; the former has its conventional connotation to which we assume the effort of labor takes on a value e = 1 and for the latter the value of e is greater than unity. The bigger the difference between unity and the value that e takes on shows the higher effort put in by labor in the production function.

34 For further analysis, see Nash 1953 and Weintraub 1975.

35 The Japanese scheme adopted by Weitzman (1984: 136–7). He was not clear whether labor should share part of the total revenue or of the total profit. In a different model inspired by Islamic teachings, Toutounchian 1998/99 suggested that labor should share part of the profits in an Islamic economic system. In his model the principal logic behind making the *Mudareb* eligible to share part of the profits earned in a *Mudarabah* contract was utilized to justify "labor" sharing part of the profit in other cases. *Mudareb* in a *Mudarabah* contract and labor in the conventional system have been assumed to possess the appropriate expertise and the necessary professionalism to claim part of the profits. These were not the only reasons for labor to share in the profits: the interactions between labor effort and other factors of production that instantaneously take place in the production process also have to be considered. In other words, labor effort and other factors of production are complements rather than substitutes, as is commonly assumed.

36 Toutounchian 1363 = 1984 developed a model to analyze *Infaq*. It has been demonstrated that in such a framework the utility of the donor, for the cause of Allah (SWT), will increase despite the reduction in consumption. The utility of the recipient of *Infaq* will also increase. With these two positive effects the social welfare of the community will also increase. Higher social welfare in this system is brought about through a voluntary redistribution of disposable personal income to people poorer than oneself, with no bearings on the possible reduction on taxable income.

37 Toutounchian 1998/99 proposed an Islamic model for labor to share part of the profit in order to avoid shortcomings of efficiency wage and shirking.

38 See, for example, Aumann, R. J. and Maschler, M., "The Bargaining Set for Cooperative Games" in Desher, M., Shapley, S. and Tucker, A. W. (eds.) 1964, *Advances in Game Theory*, Princeton University Press.

39 For more details on this and other related subjects and a long list of references, see: http://nobelprize.org/nobel prizes/economics/laureates/2005/ecoadv05/.pdf.

40 See Rawls 1971: 303.

41 See Weintraub 1975: 46–50.

42 Axelrod 1984 introduced the Evolutionary Prisoners' Dilemma as a model for understanding cooperation.

43 See Ardin 1968: 1243–8.

44 This point raises some issues as to the overall efficiency of the market mechanism in this system in the case of sole adherence to the market.

45 See, for example, Aschheim and Hsieh 1969:183; Hansen 1951:334; and Dillard 1948: 5.

46 Some of the early work in this respect was undertaken by Professor Metzler (Metzler 1941 and 1947).

47 See Toutounchian 1379 = 2000/01: 338–48.

Interest on Money and Its Scope

The most powerful force in the universe is compound interest.

Albert Einstein

Zero nominal rates of interest are necessary for efficient resource allocation.

Friedman Rule

Money, interest, capital and profit are the four most important concepts in economics. They have become so entangled with each other that it seems almost impossible to disentangle them and to show the considerable distinctions between them. As a result, they have become the source of many misconceptions. While it is not the goal of this chapter or this book to fully disentangle these concepts, the problems arising from these misconceptions require some comment.

I should make it clear from the outset that we are mainly concerned here with the nominal, as opposed to the real, rate of interest. Furthermore, interest is treated at a macro level irrespective of its importance at the micro level. The intention of this chapter is to deal with interest in so far as it comes into conflict with Islamic economic teachings. There are certain areas I have chosen to call "restricted zones" that belong exclusively to capitalism, from which we have to keep a distance. This does not mean, however, that they will go unchallenged.

A BRIEF HISTORY OF INTEREST

Interest is arguably the most controversial concept in economics and it plays a pivotal role in capitalism. Sir Dennis Robertson's assessment that "nothing [is] ever allowed to happen...except through the rate of interest" has become something of a mantra, not

only among Western economists but also among ordinary people in their everyday lives. In light of this, it behooves us to spend a little time to investigate the history and source of this misconception.

In the early masterworks, philosophy, ethics, and justice were intertwined and became the source of economic thought. Over time, though, as undue emphasis was placed on specialization within the discipline of economics, they became separate academic issues. While this undoubtedly brought great material benefits to mankind, things of great value were lost in the process. The magnitude of such losses and how they came about are questions that need be answered. It is true that a negative attitude toward wealth existed among people of the past. As Ingrid Rima has pointed out: "The teachings of St. Augustine (354–439) and Thomas Aquinas (1225–74) were negative toward activities undertaken to pursue wealth and thus were difficult to reconcile with the need to accumulate" (Rima 1996: 27). It is also true that economics did not emerge as a separate field of inquiry until the satisfaction of material needs became a desirable goal of human activity. But it would be unfair to attribute materialistic advancement to economic science alone. Human invention and innovation have brought about material prosperity for people.

But humans are not one-dimensional creatures whose happiness lies only within material things. Adam Smith expressed the view that the concern of moral philosophy is human happiness and well-being, observing: "How selfish soever man may be supposed, there are evidently some principles in his nature which interest him in the fortune of others and render their happiness necessary to him though he derive nothing from it except the pleasure of seeing it" (Smith 1759: 162). Of Smith's views, Rima writes:

> In short, conscience and sympathy will always deter undesirable conduct in the economic sphere as in every other. Smith's belief in the morality of sympathy and the influence of social experience leads him to have faith in the role of liberty to direct human behavior for the social good as well as for individual benefit. (Rima 1996: 83–112)

The history of interest is a long one. In medieval times, the lender was a rich man in a somewhat monopolistic position, oppressing the poor and ignorant borrower by gradually depriving him of the very means of gaining his livelihood. To this effect, Ashley remarks:

> The Church, caring for the masses of people, for the weak and the stupid, might think it well to maintain a

> prohibition [of interest on money] which imposed no
> restriction on the activity of the traders in the towns,
> who were well enough able to take care of themselves.
> The original prohibition had really aimed at preventing
> the oppression of the weak by the economically strong.
> (Ashley 1893: part II, chapter VI)[1]

Interest in general, as Cassel (1866–1944) saw it, could at that
time be condemned as a sin against the Law of God (Cassel 1957: 2).
He even admitted that the policy of the Church, under the given
circumstances, added more to the sum total of human happiness than
it took from it (Ibid.: 3). In criticizing some critics of the Church, he
further observed:

> Many a severe critic of the Church, from Bentham to
> Lecky, has probably overlooked, or at least underval-
> ued, the rational grounds for the interest policy of the
> Canonists... Even if we admit that there was some practical
> advantage in their policy, it is impossible not to recognize
> in what an exceedingly bad position the theory of interest
> was thereby placed. The Canonists defended their case by
> two methods which have always proved fatal to the devel-
> opment of strong and clear reasoning, viz, by Sophistry,
> the worst degeneration of human thought, and by Appeal
> to Authority, the suppression of thought. (Ibid.: 3)

Prohibition of interest by the medieval Church to Cassel seemed
"very strange to a modern mind" and as "an outcome of mere
narrowness and folly" (Ibid.: 1), even when in the period about which
he was writing, corporations were already taking shape. With their
strong financial position, they were in a position to borrow at interest
and to pass on the burden of that interest to others—the consumers.
Although consumers are seemingly not the direct target of interest,
they definitely bear the greatest part of the burden. This is even more
the case when a cost-plus pricing method is practiced. Here, the burden
is even more severe in that the producers gain more as costs go higher
at the expense of consumers. This problem is often ignored. Once
upon a time, exploitation devices were explicit and obvious, given
the greater knowledge of the elite few. Over time, such devices have
been hidden in ways that the layman would find difficult to detect.
For example, statistics show that in Germany, one-third of ordinary
household spending goes into interest charges. At the first glance, this
may seem unlikely, given that interest rates are around 5 percent.

But in the complex production processes developed in industrialized countries, interest is applied at every stage of production. The higher the number of processes a raw material goes through, the higher the aggregated interest charges passed on to consumers. It should also be clear that the ability of the producer to pass on the interest charges to consumers depends upon the price elasticity of demand. Moreover, enormous advertising expenditures are aimed at reducing the price elasticity of demand. When cost-plus pricing is applied to all expenses, this again becomes a new source of income. All in all, capitalist-type business works in such a way that it makes the rich richer and the poor poorer.

The moral necessity of justice applies to all economic activities. Separating justice from efficiency and hoping that it will come about some time in the future is futile because the future might never come. Methods and means to achieve a society's goals cannot be ethically neutral in that they are, of themselves, reliant on individuals to enact them. When people erroneously detach values from tools or physical material it is because man's role in using the tools has escaped them. The physical character of the tools is peripheral to our understanding of economics. In Aristotle's time (c.300 B.C.), philosophers were concerned with matters such as "just price" and usury. The fact that these concepts are enjoying something of a revival today might well be a pointer to the serious harm that has been inflicted on many societies through such things as unemployment, inflation, stagflation, inequitable distribution of income and wealth, business cycles, and so on—all of which have their roots in interest-bearing activities. These are the real problems we face and perhaps we should be questioning the extent to which the goal of equitable distribution of income and wealth has been achieved in such countries.

In my view, it is interest-based banking that has kept the developed countries from making further material advances. To ignore such problems and insist on the necessity of interest is indeed "mere narrowness and folly."

The abolition of *Riba*, which has long been part of economic thought in the Islamic world, has now become part of economic analysis. The changing role of interest has again revived thoughts on the concept of justice, which Muslims believe to be the ultimate goal of an Islamic state.

In an Islamic Grand Cooperative system, *Riba* is redundant and its abolition is a way to maintain and preserve justice. There is an ongoing struggle against the individualist assumptions at the roots of

capitalism. In this respect, a major issue yet to be resolved is the fact that while production is a collective action, consumption has remained personal and non-cooperative. The promise of profit-and-loss sharing (PLS) as part of the Grand Cooperative is to remove this dichotomy by bringing coherence and consistency to the economic system.

"The most important influences upon interest rates," Joan Robinson observes, "are social, legal and institutional" (Robinson 1979: 35), and the abolition of interest in Islam requires no further justification. However, it is instructive to see how Western economists have tried to justify a social, legal and institutional concept of interest using economic tools of analysis, however inappropriate.

THE PLACE OF INTEREST IN CAPITALIST ECONOMICS

Western economists treat interest as if it were a necessary and unavoidable aspect of every economic system, as a common string to tie all economic activities together and without which the system collapses. This belief might be true for capitalism, bearing in mind Sir Dennis Robertson's comment about Keynes' work raising the rate of interest "to a position of commanding theoretical importance."

Obviously, there are many elements of truth in Keynes' analysis of capitalism; yet this should not prevent us from reconsidering the place of interest in that system.

Let us begin by returning to basic economic principles. We assume a country with one huge firm whose factors of production are labor, capital, land, and entrepreneurship. Their respective shares of total GNP are shown in Table 2.1, below.

Table 2.1   Factors of production in capitalism

Factor of Production	Share
1. Labor	Wage
2. Capital	Interest
3. Land	Rent
4. Entrepreneurship	Profit
Total	**GNP**

The table shows that the monetary value of the output produced is to be allocated among the factors of production on the basis of their

respective contributions. In a primitive society where the owners of the firms are also the managers, this kind of income distribution makes sense. But what about in modern societies, where stockholders (the real owners) may not even know the managers of the corporations? In such cases, critical issues develop that require correcting:

1. The managers are not the owners of the profits earned, although they may be highly skilled and earn high incomes. They may enjoy profit-sharing privileges, or be given a proportion of the increased sales income, or of the decreased cost arising as a result of their competence and qualifications. Whichever the case may be, the managers are part of the labor force, however skilled. Therefore, they have to be included under the heading "labor." This modification leaves "profit" an unassigned income for which the proper owner has to be found. The issue is a serious one because if profits are a reward to entrepreneurs, what is left to be paid to the stock-holders? Interest, perhaps? Definitely not. Interest is paid to bond-holders, not to stockholders. Bond-holders are not the owners of firms, but stockholders are. This means that the profit is also theirs. They are the ones who run the risk of incurring loss but, as long as debts are based on collateral, bond-holders assume no risk whatsoever. These problems lead us to the second issue.

2. It has often been stated by Western economists that "interest" is the "price of capital." However, interest is the price of a sum of money borrowed to put into the firm or used for speculative purposes. We cannot be sure that all borrowed money will be converted into actual capital. As long as it is not entered into a firm and put into the production function, it cannot be considered as "capital." The legalities, as distinct from the technicalities, of the production function are important issues that are often neglected. A common, and perhaps deliberate, failure to distinguish the legal difference(s) between money and capital, and their respective returns, has become the source of considerable confusion and misconception. Interest is basically determined in the money market because of its being speculated upon. There seems to be no doubt that explaining the forces which determine the interest rate has been one of the major problems facing economists. For the classical economists, the rate of interest (r) which prevails in

the long run is determined exclusively by the thrift of the community, as indicated by its schedule of real saving (S), and the productivity of capital, as indicated by the schedule of demand for investment (I). Figure 2.1 shows the classical assertion on the determination of the interest rate.[2]

Figure 2.1   Classical view on interest rate determination
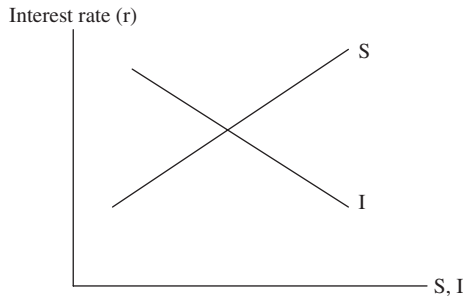
This fails completely to recognize that speculation is definitely a consequence of interest (rate). It was left to Keynes to draw the world's attention to the fact that interest is the main cause of speculation. It should be obvious to every economist that the internal rate of return (IRR) on any investment project has nothing to do with the rate of interest. In capitalist societies, investors use the rate of interest as the cut-off rate; to cut investment spending to the point wherever it comes into equality with IRR. This by no means implies that investment is a function of the rate of interest. This being the case, Figure 2.1 has to be amended accordingly, as shown in Figure 2.2.

Figure 2.2   The true mechanism of interest rate determination and its likely impact on saving and investment
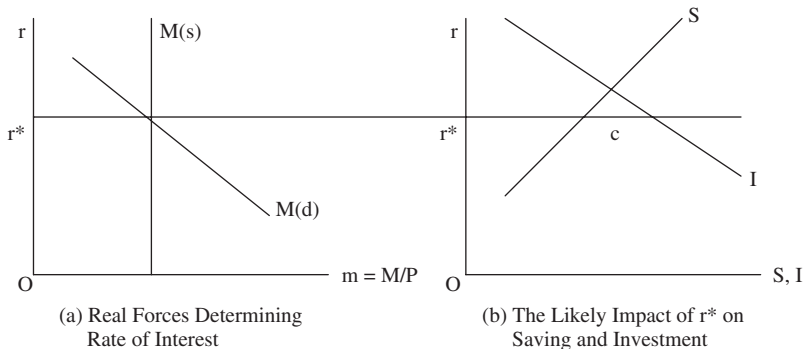
In panel (a) speculative demand for money, M (d), and its intersection with the supply of money M (s), determines the rate of interest. The going rate of interest, (r*), might have an impact on investment schedule (I) in panel (b); but its impact on saving is certain. In a very special case, r* may coincide with the point of intersection of S and I. But be that as it may, it might correspond to excess demand for investment equal to c, as shown in panel (b). It might also correspond to an excess supply of saving, not shown in the figure.

That interest determined in the money market and the reward to money does not need any further clarification. Nevertheless, it does not mean that there is no relationship between money and capital. The distinction line is more sophisticated in the case of money and capital than it is between interest and profit. Money is potential capital but not actual capital. A legal process is needed for money to become eligible for the title ''actual capital.'' This can only be accomplished by the legal establishment of a firm; it is only then that the production function makes sense. In brief, ''actual capital'' makes sense only if a ''production function'' has already been defined, and, in return, ''production function'' makes sense only if a ''firm'' has already been established. These two consecutive processes, often neglected, have to take place before anything can be said about ''actual capital.'' These requirements are not restricted to money; they should also be met for labor and land, which become factors of production only when they are employed and put into a pre-specified production function. Without an established firm and a well-defined production function, all three concepts—money, labor and capital—lose their individual identities as factors of the production function. Not all the money available in a country's economic system can be considered capital. Similarly, not all inhabitants of a country can be considered as labor.

Finally, not all land available in a country can be put into the production function. Each of these concepts has to have specific qualifications to be eligible for the production function. In this process, the legalities of the matter precede the technicalities. The ''legal'' process is not always a written and explicit contract; it can take the form of an implicit contract, as is done in everyday life. Millions of transactions take place in the buying-selling process without having to have a written and signed contract. As long as a potential buyer chooses a commodity and pays the price to the seller, and the seller accepts the money value given, the legal process is complete. This analysis can easily be extended to cover other types of unwritten contracts for the

production of goods or the rendering of services. In light of this explanation, Table 2.1 misrepresents what really happens in a capitalist system. A truer representation would be as illustrated in Table 2.2 below.

Table 2.2 Amended factors of production in capitalism

Factor of Production	Share
1. Labor + Entrepreneurship	Wage
2. Capital	Profit
3. Land	Rent
4. Money (?)	Interest
Total	GNP

Surprisingly enough, in the amended table of the distribution of income, not only has money to be considered as a "factor" of production in order to make the picture complete, it also stands on the same level as the other factors of production! 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. This distinction is real and determinant in that the development of an economy is fundamentally geared with the quantity and quality of capital, not with money. There is no single piece of evidence to the contrary. To fail to make this distinction produces fallacy—as it has in capitalism.

This simple demonstration proves that interest has no conceivable place in a coherent and sound economic system. Interest has overloaded money so that it is unable to perform its universally accepted functions: as a medium of exchange, and as a unit of account. Additionally, all factors of production, including "qualified" labor, land, and capital, are rightly considered to be the sources of wealth of a nation, but money is not. In the *Lectures*, Adam Smith insisted that society's output of goods was independent of the nation's money supply. In *The Wealth of Nations*, he elaborated on this point, his fundamental proposition that "money is not wealth" constituting his basic polemic against mercantilist doctrines.[3]

From the standpoint of accounting principles, any sum of money entering into a (legal) firm should have an appropriate and proper heading: sales, loan, equity capital, gift, and so on. The origin of such transactions goes back to the original capital invested in the

firm. Such transactions take place in monetary terms all the time and everywhere, and serve to prove the medium-of-exchange function of money. There are many other aspects of accounting concepts that economists should learn from accountants.

One of the aims of this book is to reconcile the economic terminology used by economists with that used in accounting. To my surprise, economists have developed terminology which is different in connotation from their accounting counterparts, yet at the same time, base their analyses on the statements that accountants produce, with all the commonly used accounting terminology! The most obvious examples of this are "cost" and "capital." In profit-and-loss statements prepared by accountants, all costs are of an historical nature; however, given the prevalence of inflation all over the world, accountants have taken into consideration this universal disequilibrium phenomenon and have reassessed some items in the balance sheet and, sometimes, in their P&L statements. Economists emphasize opportunity (or replacement) costs rather than the historical costs. Clearly, "cost" here has different meanings for accountants and economists. In some cases, economists make up terminology far beyond reality. The problem is that if economists are right in their terminology, they have to amend accountants' statements in line with this and produce an "economic" balance sheet, an "economic" profit-and-loss statement, and so on.

Ironically, evidence shows that they have never attempted to make such amendments but have continued to make their policy recommendations based on the accountants' statements! Another important issue is the fact that corporate taxes are based and received on accounting, rather than economics, principles. In the real world, the economy revolves around accounting principles, not economics principles, and economists must realize that in order to make economics a realistic discipline, many changes have to be made, and soon.

We return now to Table 2.1 and concentrate on the distinction that should be made between money and capital. Under some legal obligations, firms are mandated to keep their records on the basis of accounting principles. For economists to artificially enforce some rules and definitions with no legal mandate takes us away from real-world problems and might make many of our attempts quite hypothetical, thus reducing the remaining essential parts of economics to a mere mental exercise with no relevance to realities. Nevertheless, nothing is more practical than economics if appropriate modifications are

made. Perhaps the only way to make economics more practical is to reconcile economics with other branches of social science. To make economics more sensible and better understood would mean bridging the gaps that currently exist between the terminology employed by economists and that shared by other similar branches of study such as management, accounting, finance, law, and the like.

Money, with all the importance attached to it, is unquestionably discussed very differently from other social sciences. Its peculiarity does not make it into something ordinary logic rejects. If by "money" in Table 2.1 some economists mean "circulating capital," it does not give money a character different from "capital" in accounting language. The origin of every item on the asset side of a balance sheet goes back to the capital initially intended to be put in investment projects. These items include cash, bank account, accounts receivable, equipment and machinery, building, storage rooms, inventory… As it stands, economists have to accept all items on the balance sheets prepared by accountants if they take seriously their responsibility to ensure that economics is a practicable science for making policy recommendations.

Let us ask this question: Does management work with the initial capital invested in a firm or does it make the most beneficial use of the "assets" in its hand? Again, there seem to be ambiguities as to whether we, as economists, have to use the initial capital of the shareholders or the total value of its "assets" in the firm's production function. This is a very important issue to which we will return later.

First, though, we need to elaborate briefly on two terms in regard to "interest rate": "normal or natural" rate and "loan or bank" rate. It was Knut Wicksell who first used these two terms, which have been the source of considerable misunderstanding, even amongst Islamic scholars who have accepted as inevitable that a normal or natural rate of interest will eventually emerge even in an interest-free economy. Wicksell explicitly synthesizes monetary and non-monetary theories, for his "natural" rate of interest is that of a non-monetary theory, and his money or loan interest is that of a monetary theory. A close examination of his writings reveals that his natural rate of interest is nothing more than the rate of profit; a concept rarely recognized: "The rate of interest at which the demand for loan capital and the supply of savings exactly agree, and which more or less corresponds to the expected yield on the newly created capital will then be the normal or natural rate" (Wicksell 1901, Vol. 2:193).

His "expected yield on new capital" is analogous to marginal efficiency of capital (MEC). Wicksell gives the condition for equilibrium in both output and loan markets when the two rates are the same. This result corresponds to our analysis depicted in Figure 2.2 in the special case where there is neither excess demand nor excess supply for investment relative to the funds available as savings.

Let us return to Table 2.2. Almost all Western economists believe that capital stands in the same relation to interest as labor does to wages. Besides undermining the place of labor—human beings—they seem to have forgotten where interest has come from. It essentially originates in the money market, whose main and ultimate determinant is, as Professor Hicks pointed out, the speculative demand for money. The money rate of interest is the outcome of speculation on money. Professor Tobin 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" (Tobin 1958: 65 and 67).

Monetary economists have tried to distinguish between short-term and long-term interest rates, an exercise which seems futile to me. The facts are that the long-term is the envelope of the short-term interest rates and that speculative demand for money—which is basically a short-term phenomenon—determines short-term interest rates. For debt-capital—a standard method for the partial or total financing of investment expenditures, and long-term in nature—it seems that borrowers have to borrow at the "going" rate of interest normally determined in "the" money market. It is not conceivable to talk about two different money markets, one for short-term loans—which are basically for speculative purposes—and the other for long-term purposes to finance debt-capital. This kind of treatment, if plausible, can easily be generalized to cover the "prices" of all durable goods. In that, long-term prices are based on short-term prices. Furthermore, our long-term income is based on our short-term income. Generally speaking, the long-term performance of an economy is based on its short-term activities. Not only are they not independent of each other, but also one determines the other. This was probably the reason Professor Hicks 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" (Hicks 1939a: 165–6). In addition, Professor Lutz deduces that "A) the long-term rate can be conceived of as an average of future short-term rates;

B) the long-term rate can never fluctuate as widely as the short-term rate; and C) it is possible that the long-term rate may move contrari-wise to the short-term rate'' (Lutz 1940).

Although we have two different rates of interest, one short-term and the other long-term, they are of the same nature but 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 economists such as Gordon Tullock talk about.[4] The type of ''money'' we are concerned with throughout this book is the type that Tullock describes as being ''in and of itself… an almost perfect expression of a large externality'' whose perfect manifestation is ''paper money.''[5] We also understand the assertion made by Keynes that for every ''durable commodity,'' there can be a rate of interest in terms of itself, but our concentration is on the ''paper-money rate of interest.''

THE PLACE OF LABOR

A short digression is necessary here. Labor in this system does not receive the rewards it deserves. Profit maximization requires that the lowest possible wage rate be paid to the labor force; indeed, in capitalism, they naturally move in opposite directions. It is not clear how equity, one of the promises of capitalism, can be preserved in such a system. Also, given that labor is both the producer and the consumer of the goods and services, it is clear that labor does not occupy the position it deserves in a capitalist system. This is what we mean by the independence of demand and supply conventionally treated in capitalism. It is not hard to demonstrate that equity can only be maintained through mutual cooperation between worker and capitalist.

On the other hand, money has been over-rewarded in this system during past centuries; it does not deserve any reward if regarded as potential capital and the desire is there to liberalize capital. However, as soon as it changes its legal nature to actual capital, it deserves its own proper reward.

There is, as we discussed earlier, so much confusion surrounding money and capital. For example, Cassel concludes that ''the capital produces the interest'' (Cassel 1957: 49). He, like many others, failed to distinguish between money and capital. Rather, it is speculation on money that produces interest. His argument centers mainly on the productivity of capital, about which no-one has ever cast doubt. More importantly, the productivity of capital is independent from the

rate of interest. He further states that the value of capital is the rate of interest (Ibid.: 46). More specifically, he appears not to have realized that capital has a value based upon its productivity which, in turn, is independent of the rate of interest. In Iran, we have an expression which says that the best way to attack an idea is to defend it badly.

Some economists hold the vague view that money is sterile. The potency of money cannot be realized before it is legally combined with factors of production, just as human potency might not be realized before having sex (or, these days, through IVF). Money is not naturally impotent; every time and everywhere, it has the potential to become potent. It is the type of economic system that keeps part of the potential capital away from factors of production, via the production function, and makes it impotent. Impotent money kept in the money whirlpool produces a lot of economic problems. The money whirlpool is the effect of interest (rate). For centuries, mankind has suffered greatly from impotent money. We have to look for an economic system within which there are mechanisms that make all the available money potent. Eliminating interest makes this possible. Money should not be allowed to go primarily to the money market and then, possibly, partly into the production function. Impotent money inflicts the greatest harm on society in the form of unemployment, inflation, inequitable distribution of income and wealth, business cycles, and bursting bubbles. Money has to go directly into the production process if all the economic ills of capitalism are to be removed. In my view, interest is the root of all economic evils.

The most capitalism is able to do using monetary and/or fiscal policies is to boost either aggregate demand or aggregate supply. It is unable to boost both simultaneously. Capitalism needs to undergo radical surgery if it is to do both. No one comprehensive remedy has ever been suggested in this regard. Professor Weitzman's suggestion (Weitzman 1984) to follow the Japanese model of labor remuneration in order to conquer stagflation is not a remedy but simply a tranquilizer. My investigations indicate that this surgery necessitates the complete removal of the cancer cells of interest and speculation in order to make a healthy, self-regulating economy capable of sustained growth.

In order to better understand the harms done to an economy from having an interest-based system, a few observations are worth our while here. A U.S. economist and the then coordinator of the Center for Economic and Policy Research, Dean Baker, in 2001, had this to say:

(1) Nobel Laureate Milton Friedman and U.S. Federal Reserve Board Chairman Alan Greenspan have been the economists preaching the gospel of monetary policies to run our economies for the benefits of the "few and privileged." In particular, they have been hailing the institution of the stock market as representative of our well-being and as a consequence, they have been selling the gospel of changing the central banks' to prop up the stock market. They further observe that: We need to change our financial institutions for the better, and we must break down this obsession with the stock market performance as a proxy of our own well-being. (2) At its peak in the first quarter of 2001, the ratio of the price of all corporate equities to after tax corporate profits was over 31 to 1. This is more than twice the historic average of less than 15 to 1... This bubble implied more than $9 trillion in illusory wealth compared to a situation in which price-to-earnings ratios were near their historic levels. (3) It is not possible for the stock market to consistently rise more rapidly than the growth rate of corporate profits... (4) Stock holdings are heavily concentrated among the nation's richest families. The richest one percent own nearly 50 percent of stock shares and the richest 10 percent own more than 80 percent of individually held shares. In brief, 1 percent of population own 50 percent of everything. When the Federal Reserve Board makes a decision to prop up the market, it is making a decision to transfer wealth from the rest of the nation to a minority of rich people... (5) The value of individual stock holdings constitutes, in effect, claims against the nation's wealth. The greater the value of these holdings, the larger the portion of the nation's wealth is controlled by those who have stock holdings... Tens of millions of families are paying more for homes or rent because the stock market has given a small segment of the population more money to bid up home prices... [6]

Over the past decade alone, there have been countless self-explanatory examples to support the validity of my view in relation to the evils of an interest-based economic system; most notably, perhaps, the cost of unemployment in developed economies such as Germany and Japan.[7] At the time of writing, the sub-prime

crisis in the U.S. housing market is spreading to other sectors and threatening the very foundations of the capitalist system. On September 20, 2008 the Associated Press reported the following:

> The Bush administration asked Congress on Saturday for the power to buy $700 billion in toxic assets clogging the financial system and threatening the economy as negotiations began on the largest bailout since the Great Depression. The rescue plan would give Washington broad authority to purchase bad mortgage-related assets from U.S. financial institutions for the next two years. It does not specify which institutions qualify or what, if anything, the government would get in return for the unprecedented infusion... "We're going to work with Congress to get a bill done quickly," President Bush said at the White House. Without discussing specifics, he said, "This is a big package because it was a big problem."

The *Wall Street Journal* (online) reported the crisis this way:

> The latest trouble spot is an area called credit-default swaps, which are private contracts that let firms trade bets on whether a borrower is going to default. When a default occurs, one party pays off the other. The value of the swaps rises and falls as the market reassesses the risk that a company won't be able to honor its obligations. Firms use these instruments both as insurance—to hedge their exposures to risk—and to wager on the health of other companies. There are now credit-default swaps on more than $62 trillion in debt, up from about $144 billion a decade ago.[8]

With stock markets plunging and banks across the globe having to rely on government guarantees for their continued existence, there is increasing evidence that the bubble of virtual wealth has finally burst and many people are pointing to these as symptoms of the collapse of capitalism.

But, as we have noted, these problems are by no means new. In 2001, the U.S. economy entered a phase during which attention would, with some justification, shift to concerns over the immediate course of real economic activity. It was also an opportune time to remind monetary authorities of the cost of inflation—the avoidance of which remains the ultimate long-run goal of monetary policy.

   In May that year, the Federal Reserve Bank of Cleveland attempted to measure the costs of inflation. In its report, it observed that:

> In any product market, the socially efficient quantity of output is determined by the quantity at which the marginal cost of the production equals the marginal social benefit of an additional unit of output... In the case of money, the relevant "price" is a nominal interest rate since it tells us the return that must be forgone to hold dollars instead of some other asset that yields the market interest rate. What is the marginal cost of producing money? The marginal cost of producing central bank money is, effectively, zero. Applying the principle that the most desirable level of production requires setting the price equal to marginal cost, the socially efficient quantity of money would be that amount at which the nominal rate of interest (the "price of money") equals zero. An implication of this analysis is that an optimal monetary policy would result in nominal interest rates equal to zero—a proposition widely known as the Friedman Rule (1969).[9]

   Professor Stanley Fischer, using money-demand estimates from the United States, calculated that lowering the inflation rate from 10 percent to 0 percent would generate a welfare gain of between 0.3 and 0.8 percent of output (Fischer 1981). While this figure may seem fairly modest, when applied to U.S. GDP for 1999, it implies a deadweight loss of between $28 billion and $74 billion. This welfare gain could be achieved each and every year.

   Thomas Cooley and Gary Hansen found that a reduction in the inflation rate from 10 percent to 4 percent would result in a 0.4 percent welfare gain (Cooley and Hansen 1989). As with the simple supply-and-demand case, remember that this is a gain which can be enjoyed each and every year into the future.

   It is worth our while at this point going back to the Friedman Rule and the use to which it was put by the Federal Reserve Bank of Cleveland. There are several important questions that need to be clarified regarding its assertions: (a) Is the relevant "price of money" a nominal rate of interest? Or is it the price of a loan? (b) Is money a private good to justify using the principle for the pricing method? (c) For the central bank, the marginal cost of producing money is effectively zero, but what about the marginal social cost of producing

one dollar? The inflationary burden is "the" cost to society for which the marginal social cost has to be determined.

In adopting the stance it did, the Cleveland District ran the risk of comparing irrelevances. It had to demonstrate that money is like any other private good. Even if it succeeded in that, it then had to explain why in almost all countries of the world a government body such as the central bank is responsible for both the supply of money and its management.

The business (or trade) cycle is another "objectionable feature of capitalism." A brief explanation as to the nature and cause(s) of the cycle follows. Keynes believed that it "is mainly due to the way in which the marginal efficiency of capital fluctuates" which, in turn:

> ... depends, not only on the existing abundance or scarcity of capital goods, but also on the current expectations as to the future-yield of capital goods... Now, we have been accustomed in explaining the "crisis" to lay stress on the rising tendency of the rate of interest under the influence of the increased demand for money both for trade and speculative purposes. (Keynes 1939: 313 and 315)

Constant adjustment of the marginal efficiency of capital with the volatile rate of interest, itself being the effect and cause of speculation, produces "instability due to speculation" (Ibid.: 161). According to Keynes: "The schedule of the marginal efficiency of capital is of fundamental importance because it is mainly through this factor (much more than through the rate of interest) that the expectation of the future influences the present" (Ibid.: 145). On the same page, he noted too that the value of the rate of interest "partly reflects the uncertainty of the future. Moreover, the relation between rates of interest for different terms depends on expectations." Before leaving the subject, he wrote: "I am myself impressed by the great social advantage of increasing the stock of capital until it ceases to be scarce" (Ibid.: 325). As we observed earlier, he saw no reason for capital to be scarce.

He perfectly perceived the reason for the scarcity of capital: "... it is kept scarce," he wrote, "because of the competition of the rate of interest on money" (Ibid.: 213). One of the principal missions of this book is to show how it is possible to have as much capital as the economy wishes to have and still maintain both stability and sustained growth. The social advantages of eliminating capital scarcity can only be achieved by integrating money in capital theory in an Islamic

interest-free economic system. It will also be shown that the supply of money will be kept to its optimal level with the corresponding seigniorage of zero for the Islamic central bank. This will lead the economy, through the omission of speculation, to the state of stable prices.

Though some scholars believe that the business cycle was of secondary significance to Keynes, the fact that he dedicated an entire chapter to this topic in *The General Theory* is indicative of the importance he placed on this. He also denied that counter-cyclical policies, narrowly conceived, could save the market economy. When he spoke of a permanent tendency to unemployment under capitalism he, implicitly and justly, prescribed a thorough surgical operation. He was not, as I understand it, trying to construct a utopia. The deficiencies of capitalism have manifested themselves many times over and there is little reason to believe that things will ever change of their own accord.

Another explanation of business cycles has been given by the Austrian school of economic thought. Frederick von Hayek, Ludwig von Mises, and Fritz Machlup were among those who identified monetary forces as they operated within the framework of modern banking systems as essential to the disequilibrium between "lower and higher stages of production" that they identified as the chief feature of cyclical disturbance (Rima 1996: 396). The Austrian model of production is linear in the sense that it proceeds from "goods of a higher order" to consumption goods. In this linear view, capital simply consists of goods not consumed during the production process. Thus, the distinction that the classicists and Marx made between circulating and fixed capital is not relevant (for further details, see Rima 1996: 276–302).

It is widely acknowledged that the business cycle was originally conceived by von Mises in 1953 and developed most notably by Hayek before and during the Great Depression (see Hayek 1931). The Austrian theory of the business cycle is a theory of the unsustainable boom. The underlying logic is believed to be firmly anchored in the notion that the price system is a communications network. A miscommunication in the form of an interest rate held below its market (or "natural") level by central-bank policy sets the economy off on a growth path that is inherently unsustainable. In this theory the rate of interest is a price which strikes a balance between people's eagerness to consume now and their willingness to save for the future. Preferences relevant to this trade-off are dubbed "time preference." Proponents argue that, like preferences generally, time preference can change. Changes in inter-temporal consumption preferences get

translated in inter-temporal production plans. The question is how changes in interest rate arising from the actions of a few speculators in the money market can get translated into changes in the general public's time preferences. We will return to this later, when it will be shown that it is possible to have a positive or negative time preference without having (positive) interest (rate). In other words, they are separate concepts, with their own distinct implications.

Hayek depicted the economy's structure of production as a right triangle representing at the highest level of abstraction the economy's production process and the consumer goods that flow from it (Hayek 1931: 36–47). One leg of the triangle represents dollar-denominated spending on consumer goods; the other leg represents the time dimension that characterizes the production process. In a fundamental sense, the Hayekian triangles in their various configurations illustrate a trade-off recognized by Carl Menger and emphasized by Eugen von Böhm-Bawerk. At a given point in time and in the absence of resource idleness, investment is made at the expense of consumption. The third leg shows the trade-off between production time and consumption expenditures. The time dimension is divided into a number of "stages of production," the output of one stage serving as the input of the next. A decrease in the rate of interest, for example, causes resources to be transferred from the late and final stages to the early stages. In this sketch, changes in interest rate cause changes in the time profile of consumption, at times skewed toward the future and at others toward the present. Unlike alternative treatments of the sequences of credit expansion, the Austrian theory focuses primarily on the interest-rate movements and inter-temporal resource allocation, and only secondarily on changes in the general level of prices.

The interest rate has been given the central role to play in that its changes lead to changes in the time preferences of the general public, which in turn changes the investment and (surprisingly) consumption patterns of society. If there is any element of truth in the idea of consumer sovereignty, it should be the other way round: that is, from the consumption preferences of the general public to the speculative demand of a few for money to cause a positive rate of interest. Furthermore, in this theory the sequence of mal-investment and over-consumption followed by forced saving and then liquidation and unemployment characterizes the inter-temporal disequilibrium that is summarily described as a business cycle.

Both Hayek and Professor Rothbard (in Mises *et al.* 1978) suggest that the theory has application to the postwar behavior of the macro

economy, while contemporary proponents see clear application of the theory in the twenty-first century.

Keynes had a hard time digesting a peculiar theory of the rate of interest propounded by von Mises (1912: 339) and adopted by Hayek; namely, "that changes in the rate of interest can be identical with changes in the relative price levels of consumption goods and capital-goods" (Keynes 1939: 192–3).

It seems to me that Keynes' theory of the business cycle is by far the most convincing in that it is both easy to understand and easy to apply. More importantly, it justly puts all the blame on the conflicting internal forces inherent in capitalism and provides satisfactory answers to questions. By accepting the way capitalism operates, alternative theories do not provide a solution to the self-perpetuating problems encountered by capitalist societies. One common feature of competing theories is that they prove capitalism is not the self-regulating and self-correcting system it was once thought to be.

Volatility in stock markets is another feature for which there are many explanations designed to justify capitalism. Why is this volatility so pronounced? Can the efficient-market hypothesis (EMH)[10] account for such major market realignments as the stock market crash of October 1987? Although some herd-like instinct or, to use Keynes' terminology, "animal spirit" (Keynes 1936: 161), seems to be undeniable in all these theories, there is no universally accepted body of work explaining what is behind these day-to-day price changes. As it stands, there is no consensus on whether it is economic or psychological realities (or both) which are the major causes of stock market fluctuations. Shiller proposes that "investor" reactions based on psychological or sociological beliefs exert a greater influence on the market than arguments based on good economic sense (Shiller 1990: 1–4 and 71–6). He provides statistical evidence that excess volatility exists in the stock market and therefore volatility cannot be totally explained by EMH. Excess volatility is the name given to that level of volatility over and above that which is predicted by efficient market theories. He claims that substantial price changes can be explained by a collective change of mind by the "investing" public which can only be explained by its thoughts and beliefs on future events. He further proposes that people act inappropriately to information they receive. Thus freely available information is not necessarily already incorporated into a stock market price, as the EMH would have us believe. In an earlier paper, he proved that stock market volatility in prices is five to 13 times higher than the volatility

which would be explained by the EMH and new information (Shiller 1981).

John Dalton showed that not all "investors" are equally well informed and so insider information can be used to benefit individuals as long as no-one else is in receipt of the information (Dalton 1988). This is at complete odds with the strong form of the EMH, which claims that all information, both publicly and privately known, is incorporated into the stock price. Dalton says that indices such as Dow Jones cannot be used to indicate market trends as they are concentrated on big companies and do not reflect the more responsive small businesses. This is in contrast to Shiller's insistence on using indices as market indicators.

Keynes held a different view, based on long-term expectations. He pointed out that when an American purchases an "investment," he "is attaching his hopes, not so much to its prospective yield, as to a favorable change in the conventional basis of valuation, that is, that he is... a speculator." He used the term "enterprise" for the activity of forecasting the prospective yield of assets over their whole life. He further observed that "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation." He used the term "speculation" for the activity of forecasting the psychology of the market and continued:

> When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done. The measure of success attained by Wall Street, regarded as an institution of which the proper social purpose is to direct new investment into the most profitable channels in terms of future yield, cannot be claimed as one of the outstanding triumphs of laissez-faire capitalism—which is not surprising, if I am right in thinking that the best brains of Wall Street have been in fact directed toward a different object... It is usually agreed that casinos should, in the public interest, be inaccessible and expensive. And perhaps the same is true of Stock Exchanges." (Keynes 1936: 158–9)

Keynes describes a purchase of shares on the stock exchange as an act of "investment," a position with which Professor Joan Robinson found herself in disagreement, calling it "confusion" (Robinson 1979: 37 footnote), and we will elaborate on this later. Nevertheless, Keynes

attributes stock market volatility to the changes in the rate of interest which, in turn, produce changes in the attitudes of speculators.

As will be made clear in forthcoming chapters, in order to avoid hazardous mistakes, we need to make a clear distinction between money and capital, rate of interest and rate of profit, and investor and speculator. Failure to do so has been the source of a great deal of confusion.

Given that one or all of the theories of the business cycle and stock market volatility have been successful in explaining the events, this by no means makes the underlying system right and sound. Collectively, they are symptoms inherent in capitalism.

The most crucial questions relate to the kind of social benefit, if any, that can be gained from interest rate and its changes, and, ultimately, from the bubbles "on a whirlpool of speculation." There will be more to say about these questions as we proceed.

Economists have long been concerned with "equilibrium" but it seems that the structure of capitalism moves it into counter-equilibrium. Hence, it is advisable to study this school of economic thought in the light of its underlying philosophical foundation of individualism. There are many alert economists who are worried about the future of capitalism and the possibility of another big crash similar to that of the Great Depression. Time will tell whether history will repeat itself in this way.

WESTERN JUSTIFICATIONS FOR INTEREST

It is inappropriate to use scientific tools of analysis to prove a legal concept, yet the attempts made by these economists to do so deserve at least some evaluation. Böhm-Bawerk (1851–1914) is acknowledged as having the most lucid explanation for the causes of positive rate of interest. Samuelson, following Böhm-Bawerk's argument, distinguishes two reasons for the cause of interest: (1) a vertical bias of the production possibility schedule between present and future consumption goods, and (2) a general vertical bias of the typical consumer's indifference curve contours between present and future consumption (Samuelson 1964: 594–5). Hence, the tangency-equilibrium between these two curves has a slope steeper than 1.0, corresponding to positive interest. However, Samuelson argues, these two factors can be related to Böhm-Bawerk's three famous causes, *viz*: (a) technological progress or productivity of roundaboutness, or, to use Samuelson's language, the expectation by the typical consumer that his future dollars will

have lower marginal utility because his income will be higher in the future; (b) systematic time preference by consumers for present rather than future goods for rational reasons of life's uncertainties or for irrational reasons; and (c) technological superiority of roundabout processes. Samuelson relates (a) and (c) to factor (1), and (b) to factor (2).

Figure 2.3 shows how the three factors determine interest (rate).

Figure 2.3   Böhm-Bawerk's interest rate determination
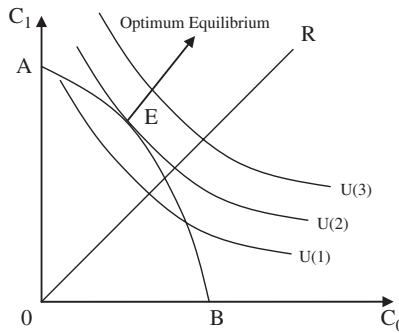
Of the three causes, (a) and (c) determine the vertically biased production possibility schedule AB, where OA>OB. The second factor, (b), determines consumption Indifference Curves U (1), U (2), and U (3) between present consumption, C_0, and future consumption, C_1. The optimum equilibrium occurs at point E whose slope is greater than 1.0. That is, if the slope at E is 1.2 then the rate of interest, (r), would be $(1.2-1.0)/100 = 20$ percent. It has to be further noticed that the vertical bias of the production possibility schedule is due to the productivity of capital. That is to say, if OB units of income $[Y_0]$ is invested today as capital, it will yield $[(Y_1)]>[(Y_0)]$ in the future; hence OA>OB. In other words, the rate of growth is r, which can be related to $[Y_0]$ and $[Y_1]$ as follows:

Slope of AB at $E = \{[Y_1] + [Y_0][1 + r]\}/\{[Y_0] + [Y_1]/[1 + r]\}$ (2-1)

which gives a value of $(1+r)$ with r being positive, which implies that $(1+r) > 1$.

Factor (b) shows "systematic time preference," according to Böhm-Bawerk (and Samuelson). Now, consider a household choosing among alternative combinations $[C_0, C_1]$ of consumption at $t = 0$,

and $t = 1$, holding its consumption pattern for all later periods fixed. We can write that the consumer's utility function is maximized at time zero, subject to a wealth (budget) constraint, as:

$$U = \sum_{t=0}^{T} U[C(t)]/(1 + \alpha)^t \qquad (2\text{-}2)$$

where the consumer's time horizon for planning is T, which need not be finite, and where α is a constant, standing for systematic time preference. If we take the total differential of (2-2) and setting $dC(t) = 0$ for all $t \geq 2$, and setting $dU = 0$ to represent holding the household indifferent, we have:

$$dU = MU[C_0]\, d[C_0] + \{MU[C_1]d[C_0]\}/(1 + \alpha) = 0,$$

or:

$$\{[dC_1]/[dC_0]\}_{U=\text{constant}} = -\{MU[C_0]/MU[C_1]\} \times (1 + \alpha)$$

which implies that rate of time preference equals

$$MU[C_0]/MU[C_1]. \qquad (2\text{-}3)$$

The household will demand an increase in C_1 greater than the reduction in C_0, that is:

$$|dC_1/dC_0| > 0,$$

and in order to hold utility constant, if either of the two things is true:

$$C_1 > C_0 \text{ with } \alpha = 0 \qquad (2\text{-}4)$$

or:

$$\alpha > 0 \text{ with } C_1 = C_0 \qquad (2\text{-}5)$$

Conditions (2-4) and (2-5) succinctly state the two important determinants of interest according to Böhm-Bawerk. To complete the picture, by holding utility constant we have:

$$U(0) = U[C_0] + \{U[C_1]\}/(1 + \alpha) + \text{ constant}$$

which is the equation of an indifference curve in $[C_0, C_1]$ space. (The above treatment relies heavily upon the analysis of Olson and Bailey 1981.)

Professor J. van Doorn once observed that "Economic literature is full of confusing terminology... many authors not only willfully make words mean what they choose them to mean, but they also apply definitions that are not even internally consistent" (van Doorn 1975: 9). The problem, as shown here, is not only a matter of definition and terminology but, rather, of analysis, which is more harmful. If economics is ever to become a reliable discipline, there is an urgent need to correct such things.

Discussion and Comment

The treatment of proving the necessity of interest outlined above raises the following questions:

1. Does Böhm-Bawerk's analysis provide a compelling and satisfactory argument for a positive rate of interest?
2. What is the logic of taking α, the rate of time preference, and r, the rate of interest, as equivalent?
3. Is a zero rate of interest compatible with a positive rate of time preference?
4. Is a positive rate of time preference sufficient for a positive rate of interest?

To deal with these in order:

1. Böhm-Bawerk's solution has, in effect, three elements; namely, technological progress, technological superiority, and time preference. The first two elements are, in their own right, logical and unobjectionable, particularly in the twenty-first century. We will soon come back to the third element in a moment.

   The important part of the question is: On what logical grounds can one prove or disprove the equivalence of rate of interest with the positive rate of time preference, (TP), which in turn is thought to be the most important determinant of loan demand and supply? Consumption loans comprise, in practice, a negligible portion of total loans inclusive of production loans. Given that the goal of producers

is to maximize profits, their time preference, as a secondary incentive to invest, becomes irrelevant.

Another important point is that production possibility considerations are the subject matter of capital, not money; keeping in mind that interest and profit are returns to money and capital, respectively. One of the major goals of this book is to disentangle these concepts and use them in their proper place.

Finally and surprisingly, equation (2-1) is a tautology. That is, it starts from rate of interest and the end result is rate of interest.

2. Taking the rate of interest to be equal to "α" is baseless. This is like saying that a rich, healthy, 20-year-old sports champion from Switzerland is the same as a 20-year-old with HIV from a poor African country.

   Capital, being productive by definition, does not make money—potential capital—eligible for a return in the form of interest. Only when it is legally combined with other factors of production is there to be a return in the form of profits. That money has the potential to become actual capital with a legitimate return does not automatically make it so. The seeming analogy between money and capital must not be carried too far. What has unfortunately become traditional thinking flies in the face of elementary logic, reducing this kind of a theory to irrelevance.

3. In order to make the rate of interest coexistent with the positive rate of time preference, Professor Samuelson has made it clear that two conditions have to be met: Firstly, to rule out factor 1 by making AB (in Figure 2.3) symmetrical around the 45° line and secondly, to rule out factor 2 by making the indifference curves symmetrical around the 45° line. He then concludes that "having ruled out net productivity and time preference, we should find that the equilibrium interest rate must then be zero" (Samuelson 1964: 595). According to him, the only way a zero rate of interest can prevail is, surprisingly, to rule out a technical reality called net productivity of capital in conjunction with a positive rate of time preference. He, too, has carried the argument too far in comparing two sets of irrelevant concepts: money-capital and time preference-interest (rate). In Islamic contracts, it is possible to have both positive time preference and zero rate of

interest simultaneously. For example, there is the *bay'mu'ajjal* contract which refers to a purchase-sales agreement whereby the buyer purchases the goods at an agreed mark-up price, the payment being settled within a specified timeframe, either in installments or as a lump-sum (see Chapra 2001: 27). The goods are delivered to the buyer at the time the contract is agreed but the price is paid later. This contract shows two things: that the buyer has a positive time preference, preferring to have the goods now rather than in the future; and that the transaction does not involve interest, although the price to be paid in future is higher than its cash price. The difference is the mark-up. Even if a higher price is paid in the future, since it involves an exchange of commodity (C) for money price (M), this does not involve *Riba*. It is Islamically legitimate because the transaction is of a C–M nature, not M–M. The difference in price between the present [p (0)] and the future [p (1)] is either determined as a percentage or a lump sum. One can always be converted to the other. In this instance, the mark-up would be: $[p(1) - p(0)]/[p(0)]$. Thus, if $p(0) = 100$ and $p(1) = 120$, then the mark-up is 20 or 20 percent.

What this example shows is that time is valuable. It should be understood that interest, literally, means "time-value of money." By contrast, mark-up shows "money-value of time." The reason that mark-up is *Shariah*-compliant is logical in that it shows that the buyer, by not paying cash in exchange for the goods, prevents the seller from engaging in several cash transactions on which he can make a profit. This loss of potential profits has to be compensated; hence permissible mark-up.

In general, four different types of Islamic buying-selling can be visualized as follows:

Table 2.3 Four types of transaction

Transaction	Commodity Availability	Payment Date
1. Cash	Immediate	Immediate
2. *Salam*[11]	Future	Immediate
3. *Bay'mu'ajjal*	Immediate	Future
4. *Kali be-Kali*[12]	Future	Future

Of these four types, the first three are *Shariah*-compliant but the fourth is not. This is derived according to the general *Shariah* ruling which does not allow a person to sell what he does not own and possess. *Istisna*,[13] like *Salam*, is an exception to the general *Shariah* ruling stated above (see Chapra 2001: 27).

Another convincing demonstration that a zero rate of interest is impossible is provided by Martin Bronfenbrenner. In a lucid treatment of the classical interest theory, he justly criticizes the position held by classicists as follows: "If... as modern macroeconomics tells us, the ex post equality between saving and investment is an identity regardless of the rate of interest, and if saving depends more immediately on income than on interest, what is left for the interest rate to do?" (Bronfenbrenner 1971: 306). On the question of a zero interest rate, he has this to say:

> A hoary dispute in capital theory has been whether the zero interest rate advocated, among the faithful, by the Bible and Koran, could be an equilibrium one in a capitalist world... It is indisputable that such a rate, or indeed a negative one, might be enforced at least briefly by formal or informal capital rationing, either in isolation or as part of a more general disequilibrium system... A zero or negative interest rate has, however, been said to involve a logical contradiction, if at all, in connection with the valuation of capital assets (machines). If p is the price of a machine yielding an income stream y when the rate of interest is r, an equilibrium condition is... p = y/r or, if the income is equal to the VMP of the machine: p = VMP/r. If r is zero, must not p be either infinite (VMP>0) or indeterminate (VMP = 0) regardless of its cost of production? If r is negative, must not p or VMP, but not both, be negative too? (Ibid: 314–5).

Although Bronfenbrenner does not seem to be altogether satisfied with the apparent contradiction that may arise from a zero rate of interest, he does not reject it.

The formula p = y/r can be derived from the wealth consideration defined as the present value of all future income streams in:

$$W = \int_{t=0}^{T-rt} y\,(t)\,e\,d$$

and W can be equal to y/r only if r(1) = r(2) = ... = r(t) and y(0) = 0 and y(1) = y(2) = ... = y(t) = constant. This makes the present value of the future income streams of an asset (W) equal to the price of that asset (p), at equilibrium. However, Bronfenbrenner (like many other brilliant economists) has failed to distinguish the "capital theory" from rate of interest. As will be made clear in the coming chapters, the rate of interest is determined in the money market, not in the capital market.

The second thing I would say about this formulation concerns the need to distinguish between the internal rate of return (IRR) and the rate of interest. The point is that, all things being equal, if the rate of return, or internal rate of return, (ρ), which is the proper outcome of capital investment, was used instead of r in p = y/r, then the apparent logical contradiction would be removed. That is, under the assumption of a zero rate of interest, p would be neither infinite nor indeterminate. In cases where both ρ and y are different for different periods, the weighted averages of these two parameters serve our purpose.

TIME PREFERENCE AND ITS RELATION TO THE RATE OF INTEREST

Among a collection of surmises made by economists about the necessity for and justification of interest is one that rests on the belief in the sufficiency of time preference for a positive rate of interest.

Time preference is believed to be one of the most basic economic concepts. It is thought that theories of interest, term structure and opportunity cost are all dependent on time preference, which is also the basis for capital budgeting in modern finance. The scope of time preference has been expanded to cover other areas such as property rights. While the origin of this idea cannot properly be pinpointed, the Austrian school's subjectivity and methodological individualism provide a distinctive view of such a relation. Endeavors have been made to demonstrate that as property rights become more secure through the evolution of government and legal institutions, individuals' subjective time preference should decrease. The reverse, however, also holds true, which means that a higher time preference would result from less-secure property rights (Mulligan undated: 1–13). Mulligan holds the position that though time preference is necessarily subjective, it should be influenced by external factors such as property rights security.

Our primary objective in this section is to see how economists have tried to relate time preference with the rate of interest. They rightly

believe that each individual's TP is a unique aspect of character. They also hold that the market interest rate prevailing in each credit market is reached through arbitrage among many individuals. On one side are individuals with high TP—the borrowers who receive a consumer surplus equal to the maximum interest rate they would willingly pay, representing their TP, minus the lower rate of interest they are required to pay. On the other side are individuals with low TP—the lenders who receive a producer surplus equal to the market rate of interest they receive from the borrowers, minus the minimum rate of interest they would be willing to accept, their time preference. Lenders compete to offer borrowers lower rates of interest while borrowers compete to offer lenders higher rates of interest, resulting in the substitution of an objective, exchange-value determined, market rate of interest, for the subjective, individual rate of TP (Mulligan: 3). Professor Menger maintained that the prevalence of a market rate of interest must be counted among the other spontaneously-evolved institutions (Menger 1883 (1985): 155–9]. Mulligan aptly believes that there is no necessary requirement that actual individuals' time preferences be either magnitude-consistent or time-consistent, or that they be equal between two individuals. He further asserts that market interest rates result from arbitrage between high time preference individuals who desire to borrow and are willing to pay relatively high interest rates, and low time preference individuals who are willing to lend and will accept relatively low rates (Mulligan: 8). Thus, any increase or decrease in the market rate of interest is a reflection of the strength of the divergence between high and low time preferences among individuals.

The task of tracing the development of the idea of time preference and its relation to the rate of interest is by no means straightforward and is further complicated by the different and changing views of economists who have attempted to do so. While it is entirely legitimate for them to change their views over time, vague ideas and assertions on this specific issue continue to produce confusion and misunderstanding, as they have for generations.

We return now to Böhm-Bawerk's explanation for the emergence of interest rates but from a different angle via a question posed by Ingrid Rima: "Why can our understanding of interest and profit not be separated from our understanding of capital?" (Rima 1996: 292). A brief historical survey will be of help here.

As Rima pointed out, originally the word "capital" was used to signify the principal of a money loan, as opposed to the interest. This usage became firmly established in mediaeval Latin, and appears to

have prevailed into the eighteenth century. In this sense, it meant the same as "an interest-bearing sum of money." That the dispute that arose over the legitimacy of interest-bearing loans brought about a deepening and widening of the conception is beyond our purpose here.

It was A. R. J. Turgot (1727–81) who gave a different reading to the idea of capital in his book *Reflections on the Foundations and Distribution of Wealth*, in which he designated all saved goods indiscriminately under the heading of "capital." In rejecting the theological argument about the sterility of money and the impropriety of taking interest, he made the important distinction between money as a means of facilitating the exchange of goods and money as capital which, when it is "employed in advances for enterprises in Agriculture, Manufacture and Commerce, procures a definite profit." His vision of the economy as a user of capital in all productive activities reflects an advance in understanding, for it leads to the notion of the "lengthening of the time period of production" which is central to the Austrian contributions to capital and interest theory in the nineteenth century (see Turgot: sections 19 and 29–34).

A third reading was given by Adam Smith. The "saved" stocks, he said, "must be distinguished as containing two portions. One part is destined for immediate consumption, and gives off no kind of income; the other part is destined to bring in an income to its owners, and this part alone bears the name of Capital" (in Rima 1996: 292–3). He noted that his use of the term was as applicable to individuals as to a whole community. "Individuals can make a gain, not only by the production of goods, but also by lending to other individuals which are destined in themselves to immediate consumption such as houses, furniture, and so on. But the community as a whole cannot enrich itself otherwise than by the production of new goods." (Ibid.)

The term "capital" became and remained connected with the phenomenon of interest. As Rima puts it:

> From that time onward appeared the peculiar phenomenon which was to be the source of so many errors and complications, that these two series of fundamentally different phenomena and fundamentally different problems were treated under the same name. Capital, as National Capital, became the central figure of the weightiest problems of Production; as Private Capital, of the fundamentally distinct problem of Interest. (Ibid.: 293)

Böhm-Bawerk's theory of capital and interest was developed within the typically Austrian conception of the problem of valuation. Of the

three distinct reasons he identified for interest based on the higher value placed on present goods, the first two are, basically, of a psychological nature and are relevant to the demand for consumer loans. These two factors reinforce one another and enhance the value of present goods. The third reason for the greater value of present goods, he maintained, is technical rather than psychological.

That the third reason would result in an infinitely long period of production, that the first two reasons imply that the period of production cannot be infinitely long, and that the interaction between the three determines the optimum length of the production period are not important in our present discussion but will become so later. Rather, what comes out of his analytical treatment is at stake. In his analytical framework, the simplest form of interest resulting from the *agio* (the premium commanded by present goods over future goods), or time preference, of individuals arises in connection with consumer loans. The preference at the margin for present goods is objectively expressed in the market rate of interest. A borrower requires a lender in order for a rate of interest to emerge. Profit to entrepreneurs is, however, the principal form in which interest is received. This induces the capitalists to buy *remote goods* such as raw materials, tools, machines, and the use of land and labor and transform them into finished goods ready for consumption. They expect to receive a gain proportional to the amount of capital invested in their firms. This gain has variously been called "profit," "surplus value" and "natural interest on capital."

Consumers and capitalists become borrowers in the money market and, naturally, there is a need for lenders to satisfy their "money" needs. The lenders are those with a low time preference. Given that Böhm-Bawerk's analysis is sound, the following questions come to mind:

1. Does profit—an ex-post concept whose existence is, on average, positive and certain—justify an ex-ante concept, interest?
2. Where does the confusion surrounding interest and profit originate?
3. Does the theory of interest provide a testable hypothesis?

We attempted, in the preceding pages, to provide a short answer to the first question. It is totally misleading, if not erroneous, to say that the principal form in which interest is received is entrepreneurial profit. Profit emerging from investment is, by definition, not only an ex-post concept but is also a long-run phenomenon. Interest on money which is the result of speculation in the money market is a short-run

phenomenon. Furthermore, profit is produced in the real sector of an economy while interest is produced in the monetary sector.

We will talk about the nature and economic consequences of money and capital and their respective returns as interest and profit in the coming pages.

In response to the second question, disputes about the propriety of profit and interest derive from the confusion that they have, historically, been attached to the concept of capital. Turgot brought some clarification to the matter by distinguishing between capital as money and capital as goods. Further clarification was provided by Adam Smith, although even he failed to distinguish the money market from the capital market. These failures obscured the true nature of interest and profit, each one being derived from different and segmented markets with a different nature and different consequences.

The third question is a serious one in its own right because the theory cannot provide a testable hypothesis. Given that capitalists borrow in order to buy factors of production and transform them into finished products ready for consumption, that interest is part of their production cost, and that profit maximization requires them to be cautious about minimizing costs, it follows that at higher rates of interest they borrow less than otherwise. Again, individuals with a low time preference are, supposedly, the lenders. Putting these two groups together, which would result in interest, is at best open to exactly the kind of criticism Keynes leveled against the classical economists: "The traditional analysis is faulty because it has failed to isolate correctly the independent variables of the system. Saving and investment are the determinates of the system, not the determinants" (Keynes 1936: 183). In this sense, Böhm-Bawerk's model is as obscure as the classical views. If this conclusion is right, it follows then that it does not provide a testable hypothesis on the grounds that "unlike the neo-classical school, which believe that saving and investment can actually be unequal, the classical school proper has accepted the view that they are equal" (Ibid.: 177). That being the case:

> The independent variables of the classical theory of the rate of interest are the demand curve for capital and the influence of the rate of interest on the amount saved out of a given income... But this is a nonsense theory. For the assumption that income is constant is inconsistent with the assumption that these two curves can shift independently of one another. (Ibid.: 179)

Besides these serious objections raised by Keynes, another question remains to be answered: If equality between saving and investment is an identity regardless of the rate of interest "and if saving depends more immediately on income than on interest, what is left for the interest rate to do?" (Bronfenbrenner 1971: 306). To see what this question amounts to, we first use the conclusion drawn by Keynes, with a minor modification, and then draw another to demonstrate the fallacy in the classical theory. In Figure 2.4, the amounts of investment (borrowing) and saving (lending) are plotted on the horizontal axis and the rate of interest is plotted on the vertical axis.

Figure 2.4   Classical theory of interest rate determination
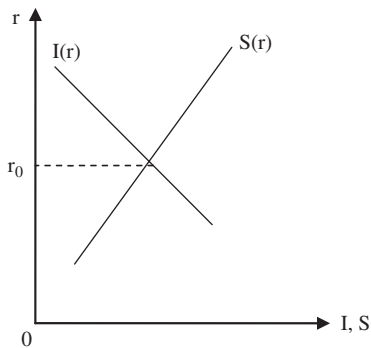
The intersection point of these two schedules, I and S, determines the (natural) rate of interest.[14] If the ex-post equality between saving and investment is an identity regardless of the rate of interest, then the position would change to that shown in Figure 2.5.

Figure 2.5   Irrelevance of the rate of interest in the classical model
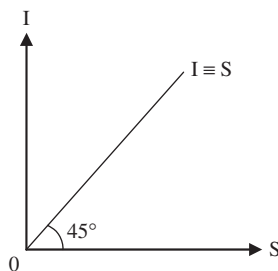
Since for all levels of saving, there exists a correspondingly equal amount for investment, then one concludes that there is no role for the

rate of interest to play in the classical model. This implies that while Figure 2.4 provides a testable hypothesis irrespective of all objections made to it, Figure 2.5 offers no such hypothesis.

We shall briefly digress here on two points:

1. The historical confusion between the rate of interest and the rate of profit (or IRR) has been handed on from one generation to the next. As modern macroeconomics tells us, "The marginal efficiency of an investment project, m, is *defined* as *the rate of interest* that will discount the [present value] PV of the project to zero. Thus, m is defined by $0 = C + R(t) + R(t+1)/(1+m) + R(t+2)/(1+m)^2 + ... + R(t+n)/(1+m)^n$" (Branson 1979: 219). Does occasional equality between a "rate" and the rate of interest make the former interest? Obviously, such treatments create confusion among students (and, indeed, some professors) between the rate of interest and the internal rate of return. Moreover, in these circumstances

Figure 2.6 Rate of profit in industry and conventional real interest rates in G7 countries, U.S., Japan and Germany
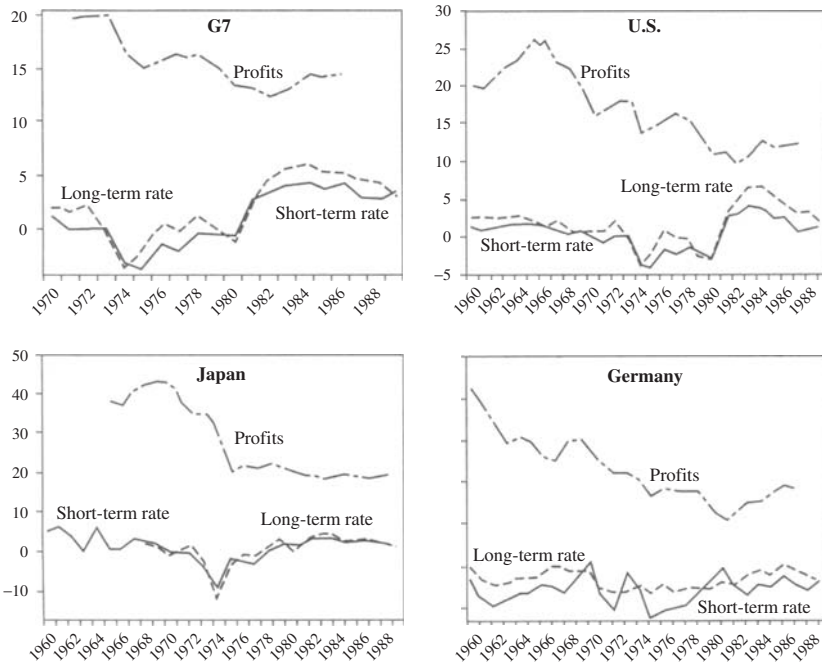
Source: National Accounts, OECD (by permission of Professors P. Ciocca and G. Nardozzi).

2. students in the early stages of learning economics see no reason to question whether there has been any misconception on the part of their teachers, who are often great economists.

2. Is it permissible to use the rate of interest in lieu of the internal rate of return? In order to make these two rates compatible, we not only have to take the long-run rate of interest but also its real values and then compare it with IRR. Only if historical evidence proves that these two rates have always been equal would using one for the other be permissible.

Figure 2.6 demonstrates that despite the widely accepted idea that in the long-run, the profit rate will always be equal to the long-run rate of interest, they are actually way apart. This has happened to each of the constituent nations of the G7, both individually and collectively, over a period of 29 years, which definitely falls within economists' definition of "long-run" and clearly implies that the rate of profit and the rate of interest cannot be used interchangeably.

Figure 2.7   Rate of interest in industry and conventional real interest rates in France, Italy, the U.K., and Canada
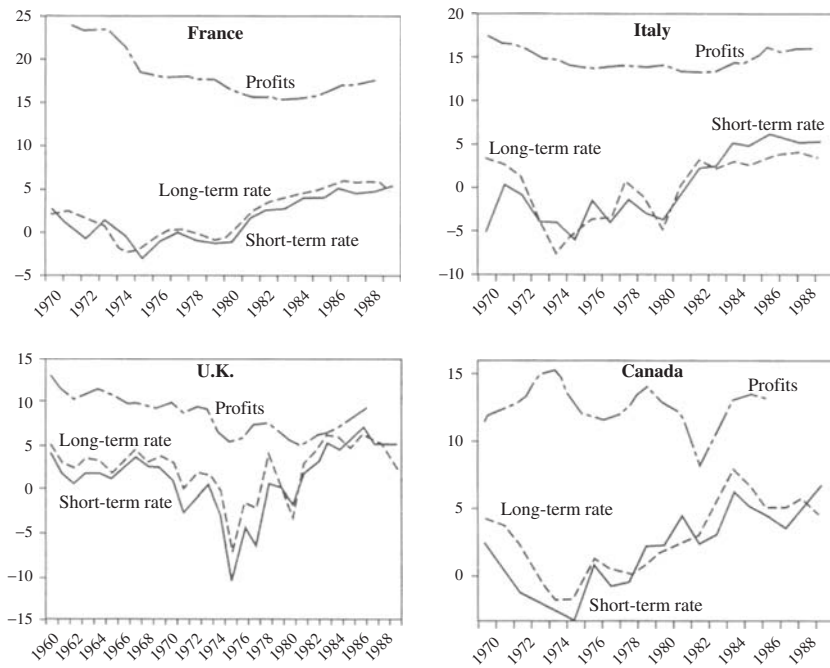
Source: National Accounts, OECD (by permission of P. Ciocca and G. Nardozzi).

These two sets of figures contain valuable information but here we will concentrate on those useful for our immediate purpose. They show that rates of profit in industry have followed a very similar path in the major industrial countries. Importantly, real long-term rates of interest, in each country and combined, do not in any way coincide with the rate of profit in industry; and the latter are far above the former. In no single case are these two rates equal. The time periods for which the data have been gathered (19 years for G7, France, Italy, and Canada and 29 years for the U.S., Japan, Germany, and the U.K., are long enough for the expected equilibrium to be reached. To the surprise of many notable economists, these two rates never became equal. This should lead to the inevitable conclusion that: (i) not only are these two rates, by nature, unequal (one is produced in the money market and the other in the real sector), but there is also a wide gap between them in both magnitude and time-path which makes them independent of one another; and (ii) there is no tendency, even in the long-run, to get close to each other.

Since these two rates are central to the capitalist system, we need to ask the following questions: Will this system ever reach equilibrium? If so, when will this happen? Isn't 29 years long enough? If a longer time is required, would the equilibrium be stable?

As yet, we are far from reaching conclusive answers to these questions. A similar question might be: Is disequilibrium a phenomenon peculiar to a dynamic system? If so, why have economists long striven for stable equilibrium and convergence of the system? It reminds us of Schumpeter's assertion that "Marx was wrong in his diagnosis of the manner in which the capitalist society would break down; he was not wrong in the prediction that it would break down eventually" (Schumpeter 1947: 424). If there is any substance to Marx's prediction, there is an urgent need to find a solution to save the lives of millions.

In a communication between professors J. B. Clark and Böhm-Bawerk concerning the latter's paper on *The Origin of Interest* (Böhm-Bawerk 1895), some points raised by Böhm-Bawerk deserve attention:

1. In *Capital and Interest* (1889), in a chapter entitled "The Positive Theory of Capital," he made it explicit that money is an illustration of the proposition that present goods are worth more than future goods. He objects to Clark's portrayal of his theory of interest as a sort of abstinence theory and of interest as payment or compensation for the time sacrifice involved in

waiting for the gratification of wants, dismissing it as "a total misunderstanding" of his theory. He points out that in the book, he has "emphatically and repeatedly laid it down that, as a rule, capitalists do not forgo any personal indulgence when loaning or investing productively their present goods." (Böhm-Bawerk 1895: 1)

2. When Clark cites the case of a water-mill and a steam-mill yielding the same rate of interest on capital invested, Böhm-Bawerk asserts that:

    Were the production period two years and the technical productivity the same—that is to say, were the product of 100 days' labor and a production period of two years only 100 pieces of the same commodity—then there would be a profit of $10 upon a capital to $200 invested for two years. The capital would therefore bear only 2 1/2 percent interest; and the "productivity of industry," as Professor Clark understands the phrase, would be lessened. If productivity, in Professor Clark's sense, is to remain undiminished, "technical productivity," as I use the term, must evidently be greater in the process extending over a period of two years. If in the two-year period, one produces with 100 days' labor 105 pieces of the commodity, there is a final return of $220.50, or an interest upon the capital of 5 percent per annum.

    He further points out:

    These are two very different matters; and the reader will readily perceive that, in the case of production periods of unequal lengths, equal productivity in the first sense and equal productivity in the second sense, not only need not, but cannot coincide with each other… As I have expressed the matter on page 336 of my Positive Theory, interest is the "legitimate consequence of the constant fact that present goods are more useful and are more desired than future goods, and that they are never present and offered in unlimited abundance."

3. Time preference can be taken to mean the "willingness" of the borrower, grounds that are necessarily subjective,

while Keynes's propensity to consume, which is fundamentally pragmatic, is totally related to the "ability" to pay. This implies that, contrary to the belief of the Austrian School, even with a high rate of time preference but a zero propensity to consume, a positive rate of interest (in the loan market) will not emerge. Professors Olson and Bailey endeavored to demonstrate theoretically that time preference is, in fact, positive. However questionable this finding appears to be, it by no means proves in principle the existence of interest. They further claimed that a glance at equation (2-2) reminds us that even if time preference were zero, this fact could generate a positive interest rate, which is quite contrary to the Austrian School position. We believe that in a capitalist setting, a high propensity to consume by borrowers, when combined with a low propensity to consume on the part of lenders, is sufficient to produce a positive rate of interest. In conclusion, it seems that propensity to consume is the missing link in the Austrian theory of interest.

Still, further ambiguities remain in the above analysis. Assuming the credibility of Say's law (that supply creates its own demand) in those decades, the Austrian School must have concentrated on the time preference of the suppliers of goods, not of the demanders, in order for a positive rate of interest to emerge. In doing so, they would have had to neglect of propensity to consume, which seems irrelevant, on the grounds that profit was their ultimate goal. In other words, that theory and the widely accepted Say's law are incompatible, unless one believes that this law is either a myth or, at best, unimportant.

In his response to Clark, Böhm-Bawerk failed to make a distinction between the monetary and the real sector, using profit and interest interchangeably *as if* they were perfect substitutes. The fact that capitalists are after profit and profit is a just return on capital investment does not make interest legitimate. It requires something different and more logical than the time preference of consumers to prove the legitimacy of interest. As we saw earlier, time preference is an ex-ante concept resulting from speculation on money. Profit, on the other hand, is an ex-post concept and results from investment expenditures which are, by definition, long-run in nature. For using these two concepts interchangeably, Böhm-Bawerk has to be held totally responsible for the confusion that has marked economic analysis ever since.

IS TIME PREFERENCE POSITIVE IN ALL CIRCUMSTANCES?

Böhm-Bawerk attempted to establish a cause-and-effect relationship in his time preference theory. In this section, we ask a more fundamental question about the existence of positive time preference in all circumstances, be it a primitive (barter) or an advanced and civilized community. If it could be demonstrated that in even one example, the weighted average of time preferences of the inhabitants of a society is nil, then the entire theory could be proved to be a mistake.

Rothbard's discussion of time preference (Rothbard 1962) concerned Mises' critique of Schumpeter's claims that interest would not exist in an evenly rotating economy (ERE). Mises based his conclusion that there would indeed be interest on the assumption that there could be no capital goods in the ERE unless capital goods had a price, which he defined as "originary interest" (Mises *et al.* 1966: 530–1). We re-emphasize here the logical assertion that interest is not and cannot be the price of "capital" unless this is mistakenly taken to mean "money." Rothbard's reasoning is rather different. In providing reasons for the rate of interest in the ERE, he holds that individual time preferences "are all positive" (Rothbard 1962: 385–6).

Our main concern here is whether time preference in the ERE is, in fact, positive and we take an example of a hypothetical country whose inhabitants' age distribution is perfectly evenly distributed. For simplicity of exposition, let us assume that life expectancy is 100 years of age. In our hypothetical country, the first 10 percent of the population is between 0–10 years; the second 10 percent between 11–20 years of age, and so on, so that the age of the last 10 percent is between 91–100 years. We finally assume that this age-profile will persist indefinitely into the future. The resulting age distribution would be a curve similar to the Lorenz curve, with a concentration

Figure 2.8   Age profile of an evenly rotating economy (ERE)
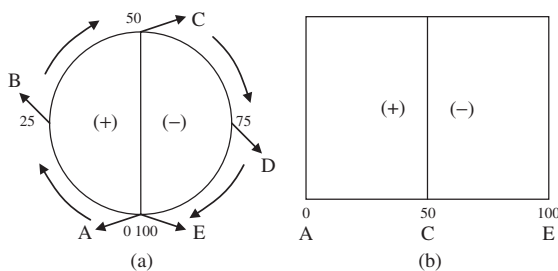
ratio of zero. Furthermore, the profile would resemble either (a) or (b) in Figure 2.8 below:

Figure 2.8(a) better illustrates the idea of this hypothetical case in that at every passing hour or day or week, new babies are born and an equal number of old people die, but nothing changes the underlying clockwise pattern. Every point on the circle is occupied by one person or group of people of equal age. The circle has been divided into four equal segments: AB, BC, CD, and DE. Exactly one-quarter of the total population lies in each of these segments such that nobody lies outside the circumference of the circle. Figure 2.8(b) can also be used to demonstrate the same idea, the difference being that the direction of movement is a straight line composed of two segments from 0 to 50 and from 50 to 100, as opposed to the circular pattern in (a).

The question at this stage is whether different age groups have the same time preference. To answer this question, we need to ask another: Is speed of life, a very crucial determinant of time preference, the same for all age groups? To this end, we need to find not only an index for speed of life but also the psychological characteristics of each age group. To illustrate, we take three age groups: 20, 50 and 80. The index, with all simplifications necessary for the purpose of illustration, would look like this:

$$A/(LE - A) = SF \tag{2-6}$$

where A stands for age, LE for life expectancy and SF for speed of life. For the three selected age groups, the indices are respectively:

$$20/(100 - 20) = \tfrac{1}{4}$$

$$50/(100 - 50) = 1$$

$$80/(100 - 80) = 4$$

These figures show that for a person of 20 years of age, the speed of life is $\tfrac{1}{4}$; for a 50-year-old it is 1; and for an 80-year-old it is 4. In other words, these figures show that speed of life increases exponentially with age. That is, for an 80-year-old, speed of life is 16 times higher than that for a 20-year-old. From the ages of 20 to 50, speed of life quadruples and from 50 to 80, it is four times higher again. What, if any, significance can be attached to this exponential increase? The velocity at which time passes is not the same for all ages or age groups. A 20-year-old will feel that he has spent only one-fifth

of his lifetime and four-fifths still remain, while a person aged 80 feels the opposite. The young clearly have more time to test and consume time, goods and services. They have more time to experiment and learn lessons from doing so. They are also more likely to take risks and, while this naturally increases the likelihood of failure, they seem to undervalue risk, feeling that they have the time to compensate for any failure. Their stock of experience increases daily. The oldest group is assumed to have gathered experience and is putting this into practice because they do not have much time left for new experiments.

The example outlined above shows a dynamic process in an evenly rotating economy in which at every moment, there exist stocks of experiments which not only change stock into flow but also, in turn, become the cause of changing the time preferences of different groups as they age. This, of course, takes place gradually. Does this phenomenon imply anything with respect to time preferences of these groups of people? Our analysis shows that there is an inverse relationship between age and time preference: the lower the age, the higher the time preference. The reverse is also true. We should point out that to simplify matters in this analysis, we have deliberately ignored all forces which serve either to lessen or reinforce time preference (such as advertisements or the desire to leave bequests for future generations).

The demographic pattern of a family follows that of a nation, with the difference that in a society, the curve connecting all ages for the whole population has a smooth profile, while that for a family follows a step-function profile. The difference in attitude toward the future between a nation and a family is more profound than the age pattern. If bequeathing property and illiquid assets to posterity becomes the habit of a nation, all citizens are affected, though to different degrees. Historically, the evidence suggests that it is rare for one nation not to leave illiquid assets for future generations. However, the degree of thriftiness varies among nations. This in itself is proof of low time preference, in general.

An individual's time preference does not depend solely on his own attitude toward the future; it is also determined by his parents' attitudes, which are partly influenced by the national culture. The culture and attitudes of the people of a nation toward inter-temporal maximization of utilities will slowly but surely be transmitted from one generation to the next. In an interesting example on the accumulation and inheritance of property, Professor Meade attempted to match the distribution of property across successive generations.

Using two categories of mating—"Perfect Assortive" and "Completely Random"—he showed that if properties are left to all children (sons or daughters) the percentage of population owning property for "Completely Random Mating," which may be thought to be the dominant type of mating, rises towards 100 percent, whereas for the other group, the relevant percentage remains constant (Meade 1976: 169–82). It is clear that where one generation is willing to transfer part of its wealth to the next, this cannot be used to show that a positive rate of interest emerges on the basis of the time preference hypothesis.

The endowments individuals receive from their parents help to determine both the amount of income they might earn and the property they might accumulate during their lifetime. This, in turn, would affect the endowments they could hand on to their children. This continuous process is what we understand from the evenly rotating economy at large in a country or on a small scale in a family.

Young people are influenced not only by their parents and grandparents with whom they live but also by their peers, with whom they spend time every day. In this way, they glean information from both their age-class and their family. The degree of influence of each differs from culture to culture and from nation to nation.

All income flows received by the owners of the factors of production have to become, sooner or later, the stock of wealth. The wealth of a nation is owned either by individuals or by the state. Even in the latter case, it exhibits a low time preference for the present in favor of the future. History has shown that the stock of wealth owned by individuals in almost all countries of the world increases over time (ignoring the adverse effects of inflationary periods on mal-distribution of wealth), which in itself refutes Rothbard's hypothesis that "individual time preferences are all positive."

Let us digress slightly here and look at time preference from a different angle. Property owned by the elderly is by no means the most significant contribution to society made by this age-group. In dynamic and developed societies, this group has made the greatest contributions in the fields of science and technology as well as in socioeconomic developments. During the process by which yesterday's young generation becomes today's older generation, significant sacrifices are made in the course of contributing to the sum of human knowledge and well-being. These sacrifices reflect low time preference on the part of this group. These are important lessons that have to be learned by the young. The young do not grow up in a vacuum. They

are surrounded by influential forces and there are probably millions of young people sitting in libraries and laboratories, reading and doing research, making sacrifices for a higher, remote, pleasure, rather than immediate, material, pleasures. This low time preference, as far as the consumption of goods is concerned, has been learned from the older generation: to make a nation wealthy and powerful, they know they have to sacrifice something today for a higher pleasure tomorrow.

The assertion that "individual time preferences are all positive" also fails to take into account the massive influence exerted by advertising. Credit cards, fashions and movies are all greatly misused in order to fuel the demand for consumer goods and guarantee the ever-increasing profits of multinational corporations and industrialists. If these extremely artificial effects are not considered, they introduce a large element of unreality into our analysis. Only when such influences are eliminated from our theory can we offer a testable hypothesis. There seems to be scant, if any, evidence to support the notion of all individuals having positive time preference. On the contrary, it is not at all hard to find a massive amount of evidence to suggest that the opposite is true.

In the undated and unpublished manuscript on "Property Rights and Time Preference" alluded to earlier in this chapter, Professor Mulligan has developed the case for different people having different time preferences. While he is generally of the belief that the theory of interest depends on time preference, it would be remiss of us if we did not at least acknowledge some of his insights into the theory. For example, he holds that:

> [I]n addition to objective differences in property rights, there are also subjective differences... The kinds of property individuals choose... may influence, and in turn be influenced by, their rate of time preference. Individuals with high levels of time preference are more likely to amass portable hoards of liquid cash, jewels, precious metals, and human capital, while those with lower time preference will hold more of their savings in land and illiquid, long-lived, physical capital. Once one's wealth is tied up in long-lived assets, one's time preference is likely to remain relatively low, until and unless the assets are destroyed or lost. Holders of highly liquid assets are more free to relocate in response to threats, but must remain vigilant to take advantage of this flexibility. (Mulligan: 4)

From the speed-of-life calculations we used in our hypothetical example, we reached the conclusion that the young have a positive time preference to amass liquid assets and the older generation has a positive time preference for illiquid assets. Although Mulligan makes no reference to high and low time preferences of the young and the old, our conclusion conforms with his overall analysis and also with Olson and Bailey's position that the ratio of marginal utilities in (2-3), $MU[C_0]/MU[C_1]$, depends not on time but on levels of consumption in the two periods (Olson and Bailey 1981: 5). Specifically, our analysis time incorporates the crucial element which connects young and old, and the kind of assets a generation holds depends on where it stands in its lifespan.

All in all, the least that can be said with any degree of certainty is that individual time preferences are not all positive, and it is highly likely that the time preference of all coexisting generations in an ERE will be zero. Where two or more generations live together, the overall rate of time preference can be thought to be zero, which might occur when the time preferences of the two generations cancel each other out. This example clearly contradicts the assertion that a positive rate of time preference can be used as a sufficient condition for the rate of interest to be positive. The reason for this is simple enough in that in order for a "price" to be positive, there should be excess demand for the good in question. In our example, it means that the demand and supply curves of money intersect each other on the horizontal axis and the rate of interest on the vertical axis, which results in a zero excess demand for money. It would be a great mistake to think that every economic policy has to be based on price.

According to Professor Meade, in a *laissez-faire* competitive-market economy, there are important forces at work promoting economic efficiency. However, there are fundamental economic reasons why they cannot be left to operate unchecked and uncontrolled in all cases without the loss of economic welfare (Meade 1976: 13–4) and he goes on to illustrate how the criterion of economic efficiency gives inconsistent results (Ibid.: 30–43). As an economist, my main goal in this book is concerned only with devising a model whereby everyone can be made better-off simultaneously or, at least, some can be made better-off without anyone being made worse-off. I believe that this can be achieved in an Islamic interest-free banking system, in which social interest takes precedence over self-interest and where both efficiency and equity can coexist. Such a system will take care of justice across and between generations as a natural consequence.

Ruling out any relationship between time preference and interest (rate) in the absence of a propensity to consume, which is different for different generations, we can conclude by saying that the nature of interest, however conventional and legal, is more complex than can be confirmed even by proving that "individual time preferences are all positive." Gunar Myrdal's observation that "the tendency of all knowledge, like all ignorance, to deviate from truth in an opportunistic direction becomes reflected in twisted terminology" (Myrdal 1974: 158) certainly holds true in relation to time preference and interest and to the marginal efficiency of capital.

SOME FURTHER THOUGHTS ON INTEREST

At this point, it might be interesting to review some of the statements that have been made by economists and scientists about interest. Let's begin by examining why interest is paid. This question is somewhat different from the one we asked earlier about the necessity of interest. In the eighteenth century, Turgot rejected the old idea that interest is the price of money and defined it, rather, as "the price given for the use of a certain quantity of value during a certain time" (cited by Cassel 1957: 20).

He showed how this price is fixed by demand and supply, and gave attention to the causes which govern the "demand" for capital. Cassel interprets Turgot's capital as "a certain quantity of value during a certain time" (Ibid.: 21).

To Cassel, "it was impossible for Turgot... not to state that capital cannot be used in industry, unless it yields at least the same rent as the capitalist is able to secure for himself by buying land" (Ibid.: 22). Both Turgot and Cassel should have distinguished between a sum of money (or value) lent without it being put into the production function and the same sum to be put into the production function. Furthermore, they both failed to recognize that "interest" is applied to the former and profit to the latter.

While Adam Smith did not add anything of special importance to the interest theory, he presented the results already stated in simple language and gave them the whole weight of his authority. He seems to have accepted these results as definitive and looked on the problem of interest as essentially a problem of price: "As the quantity of the stock to be lent at interest increases, the interest, or the price of which must be paid for the use of that stock, necessarily diminishes"

(Smith 1776 II: 4). This observation is reinforced elsewhere in *The Wealth of Nations*:

> 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. (Ibid. I: 5)

It was thus enough for him to state that interest is necessary in order to call forth a sufficient supply of capital, and because the necessity of advances leads to a never-ceasing demand for capital: "Something must be given for the profits of the undertaker of the work, who hazards his stocks in this adventure... He could have no interest to employ them, unless he expected from the sale of their work something more than what was sufficient to replace his stock to him" (Ibid.: 6).

Thus, even the man claimed by many to be the father of economic science failed to take the first step to remove the everlasting confusion between money and capital. The sum of money supplied to benefit from interest in the money market may, or may not, go into the "adventure" of investment. In fact, the investor seeks to maximize his/her profits (or internal rate of return, to be more precise, which is totally independent 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. A more fundamental point is that these economists have to provide an explanation as to why interest has to be paid in the absence of inflation and risk in the first place. An investor works within a legal framework; the "firm" which makes production possible. This is essentially and totally different and independent from buying and selling money as if money is a private good. The basic difference is that the former has all the social benefits attached to it but the latter produces harm to society.

Like the earlier economists he was seeking to defend, Cassel also confused the two concepts 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" (Cassel 1957: 24). He further observed that "Adam Smith tells us expressly that, in his time, double interest was considered a fair rate of profit."

Let us straighten this out once and for all. Take a simple example where an entrepreneur uses only two factors of production: capital (K)

and labor (L). He borrows a sum of money at the going rate of inter-est, (r), to undertake a business venture and pays the labor its going wage rate, (W). Assume also that interest charges (r.K) and the wage bill (W.L) are paid after the product is sold and from the total revenue (TR) he receives. Obviously, the entrepreneur's reward is not TR but TR – r.K – W.L which is, by definition, profits ($\prod$). It would be a mis-take to call the entrepreneur's total revenue his profits and say that part of this goes to interest charges on capital, because profits are exclusive of both interest charges and wages. Profits cannot be subdivided into interest and profits of enterprise, as was erroneously done by Cassel (Ibid.: 24–9). What an entrepreneur earns and puts into his pocket, in a tax-free system, is his reward, to which no one can have any claim.

I find it hard to comprehend the difficulty many writers seem to have in grasping this simple calculation. As one writer put it: "Economics is haunted by more fallacies than any other study known to man" (Hazlitt 1979: Preface).

If this concept is indeed as simple as I contend, then this would seem to point to the fact that capitalism's apologists merely pretend to find it difficult to understand. This being the case, one might be tempted to come to the conclusion that there is something wrong with capitalism that such writers are attempting to hide. This might help explain Alan Greenspan's reported statement 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."

This also has echoes of the position taken by Joan Robinson: "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."[15]

J. B. Say separated the functions of the capitalist from those of the "entrepreneur," capital from business ability, and interest from the reward for such ability. He is credited with having introduced the concept of pure interest into the science and with being the first to state the mutual dependence of demand, price, and cost of production (Cassel 1957: 25 and 27). To him, all prices—those of the commodities as well as those of the productive services—were regulated by one and the same market.

Having understood the process of price determination and, as Cassel sees it, cleared interest from the influence of money and also from the element of an insurance premium for risk, Say proceeded to isolate the functions of the capitalist, whom he defined as "the person

who makes the advances." What is advanced is, in Turgot's words, "a certain sum of value." Such advances are, to Western economists, necessary for all production and thus one of the productive services whose prices are determined in the general market. This is known as Say's theory of interest.

However, further confusion seems to have arisen here over the idea of the capitalist. The person who makes advances is nothing more than a money lender in that he/she does not have anything to do with capital. As we have seen, it is only after money has been through the legal process to establish a firm that it becomes capital. The money lender merely lends money and takes none of the risk associated with the investment of that money by the entrepreneur who, by taking that risk, becomes eligible to earn profits.

Do "profits," on scientific grounds, justify the payment of interest? Samuelson (1964: 583–4) found it easy to defend such payments on ethical grounds; that is, on the grounds of fairness, to which we will return later. He apparently found that positivistic logic (the "what is" as opposed to the "what ought to be" of normative, subjective, reasoning) is unable to justify interest. Positivist logic relies on objective reasoning and is said to be value-free, while the latter is value-loaded and is based on value-judgments. It is worth noting that economics, according to most master economists, eventually rests on value-judgments, especially when it comes to whether the (re)distribution of income and wealth such as taxes and/or subsidies is "fair" and "just". In an attempt to resolve the deadlock, he has utilized normative argument. Is this issue not really an ethical one which has been determined in the capitalist school of economic thought? Is it in the realm of positive economics? I, for one, find Western economists' arguments totally unsatisfactory on the grounds of their being in the positivist domain.

There are, of course, many who have money but who desperately avoid any risk. They could be hedged against any risk when interest-free banking is introduced and properly analyzed.

Cassel, like many other Western economists, tried to establish a connection, however artificial, between the rate of interest and the productivity of capital. In this regard, he sums up the results of a discussion between Ricardo and Malthus, in the following three points:

   a.   Interest is determined by the principle of supply and demand;

    b.   The supply [of capital] is regulated by the tendency of accumulation to diminish when the rate of interest diminishes; and

    c.   The demand [for capital] is regulated by the tendency of the natural productivity of land to diminish when the population increases (Cassel 1957: 31).

He believed that the last two of these would have been good starting points for further investigations into the forces operating on the supply and demand of capital. He justly criticized the Socialists on two grounds: firstly, for omitting all the reservations clearly expressed by Ricardo; and secondly, for falsely using the Ricardian theory of value to mean that the value of any commodity was equal to the quantity of labor bestowed upon it. Cassel (with no logical grounds for doing so) accused the Socialists of having other faults, of which the most common was to look upon interest as a mere outcome of the monetary system. To support his assertion, he blamed Proudhon (1809–68) for the extra money a peasant would have to pay to the lender for the borrowed money Proudhon called "monetary parasitism" (Ibid.: 33).

While he was correct to oppose attempts to place interest in any relationship with the monetary system, he was wrong to attack Proudhon in this way. Unlike Proudhon, he failed to recognize and understand the evils any interest-based system brings about.

To throw further light on why interest is paid, we need to consider the views of other economists:

- C. F. Bastiat (1801–50) talked about the function of the lender this way: "To save is deliberately to put an interval between the moment when the services are made for the society, and that when the equivalent is received from it" (cited by Cassel 1957: 39). This *adjournment* (time interval) is the object of exchange and the price or it is interest.

- Nassau William Senior (1790–1864) introduced the element of "abstinence" into economic theory. Abstinence, he said, belonged to the third group of Instruments of Production (the other two being "Labor" and "Natural Agents"), without which the others are inefficient. "To abstain from the enjoyment which is in our power, or to seek distant rather than immediate results, are among the most painful exertions of the human will... of all the means by which man can be raised in the scale of being abstinent."[16]

- McVane made some objections to a proposal that the measure of abstinence (that is, interest) was the quantity of wealth put into the process of production, saying:

  Now, the quantity of wealth abstained from is gauged by its value; and its value depends on its cost of production… abstinence is not itself a primary fact of industry… the more fundamental fact is the length of time that must be elapsed between the outlay of labor and the possession of the finished product (McVane 1887).

    He argued that if we introduce abstinence as an element in determining value, and value as a factor in the measure of abstinence, we are clearly guilty of using the thing to be measured as part of the standard for measuring it. He, therefore, proposed replacing the term "abstinence" with the term "waiting," which Cassel calls "a very useful conception" (Cassel 1957: 41), on the grounds that it is an arithmetical quantity. If the saver postpones the consumption of a certain sum of value, then "waiting" becomes, according to Cassel, a matter of fact measured by the product of such a sum of value and the time of waiting. Waiting in this sense is one of the services which constitute "the concrete costs of production." It seems to have been McVane's aim to find these costs, as distinct from their values or from what Marshall calls "expenses of production" (Marshall 1953: Vol. 1, Book V, Chapter 111). Marshall accepts the term "waiting" as being equivalent to "postponement of enjoyment." (Ibid.: Book IV, Chapter VII; and Book VI, Chapter VI)

Ignoring for the time being the evils of interest, the money market and speculation, and allowing that time is valuable, is "waiting" (which is measured by time) the less important issue? On what grounds should consumers ultimately have to pay twice for "waiting"—first, as interest on the money borrowed by the investor and then as profits resulting from the difference between price and average cost, as is quite often the case—when there is really only one period of waiting, which starts from the time the money is borrowed and extends to the time of the possession of the finished product? If ways could be found to compensate the so-called lender by, say, making him a stockholder, with no risk and hence a guaranteed rate of return taken from the truly realized profit, then this would serve two useful functions: consumers would pay less for the commodities produced and the functions of

money lenders in the money market would become redundant. This scheme, referred to throughout this book as "a grand cooperative" Islamic economic system, transforms the citizens of a society into one whole unit. In such a system, each individual acts not only on the basis of his/her own interest but on those of society, as well. Mathematically speaking, the total amount of "waiting" supplied in such a society may be regarded as a function of the productivity of the whole system.

Such a system takes to heart Joan Robinson's dissatisfaction with the "defective methodology" of mainstream economics teaching and, as she observes, "since the mainstream flows awry, we must return to the source. The classical economists did not treat society as a cooperative" (Robinson 1979: 124).

It seems to me that the socioeconomic problems of capitalist countries rest on this distinction, a fact which many prominent Westerners themselves have been quick to appreciate. In 1937, President Franklin D. Roosevelt acknowledged that "We have always known that heedless self-interest was bad morals. We know now that it is bad economics." The American essayist E. B. White was of a similar mind on this point: "The trouble with the profit system has always been that it was highly unprofitable to most people."

There are many reasons to believe that cooperation among individuals and agents produces benefits that could be shared by all those who take part. There are numerous and substantial advantages that can be attributed to cooperation but which are absent from the capitalist market mechanism. The literature on the subject is abundant. In my view, however, the following extract provides a cogent summary of what is and what is possible, and of the ideas that form the kernel of this book.

> Where the invisible hand fails to direct each person, mindful only of her own gain, to promote the benefit of all, cooperation provides a visible hand...Where market interaction, with its pre-established harmony between equilibrium and optimum, is beyond good and evil, and natural interaction, in the presence of free-riders and parasites, degenerate into force and fraud, cooperative interaction is the domain of justice. Justice is the disposition not to take advantage of one's fellows, not to seek free goods or to impose uncompensated costs, provided that one supposes, others similarly disposed...cooperation ensures the elimination of the free-ridership and parasitism endemic to our natural condition, so that we may

identify justice with the rational disposition to cooperative behavior. Thus we find ourselves in agreement with the most beneficial contemporary theorist of justice, John Rawls, when he says, "The circumstances of justice may be described as the normal conditions under which human cooperation is both possible and necessary."

David Hume... supposes that the need for cooperation arises from the conjunction of society, characterizing our "outward circumstances", and a bias in favor of the self, characterizing our "natural temper." The mutual unconcern presupposed by the market is an extreme form of self-bias, although the structure of market interaction makes it an innocuous one. If nature were to provide in abundance the goods needed to satisfy our desires, or if benevolence were to lead each person to regard her fellow's concerns as her own, there would be no free-riders or parasites to be restrained by the visible hand of cooperation.

But scarcity and self-bias are not sufficient warrant for cooperative interaction... The sources of satisfaction and dissatisfaction are not in fixed supply, so that by appropriate interaction, overall costs may be lessened, and overall benefits increased.

Yet strictly speaking, it is not the fact of variable supply, but awareness of the fact, which is important. This awareness has both its negative and positive effects. On the one hand, we become aware of each other as competitors for scarce goods, and this awareness exacerbates our competition, increasing our costs... On the other hand, **we become aware of each other as potential cooperators in the production of an increased supply of goods and this awareness enables us to realize new benefits** [original emphasis].

... Thomas Hobbes... argues that given scarcity and total mutual unconcern, each must view all other persons as in at least potential competition for the goods that she needs for survival or for greater well-being. But this creates in each person an actual preference for dominating her fellows; if she is able to establish her dominance now, then she may expect to be more successful in any future struggle for scarce goods. In this way, potential conflict is converted into actual hostility...

Little in Hobbes's argument suggests a more positive role for cooperation. We are aware of each other as competitors, and so we come to cooperate in order to avoid mutually destructive conflict, but we are less aware of each other as a potential source of mutual benefit.

... [R]ecognition of the possibilities of increased production implicit in the idea of variable supply is also the basis of the market. Hume and Rawls are insufficiently mindful of the role of the market in limiting the need for cooperation. Market interaction takes place under conditions of variable supply among persons who are mutually unconcerned. But given perfect competition, they have no use for cooperation interaction as a visible hand, since the optimality of the market outcome excludes any alternative that would reduce overall costs or increase total benefits... Since externalities presuppose variable supply, we may then say that the fundamental circumstances of justice, those features of human situation that give rise to cooperation, are awareness of externalities in our environment, and awareness of self-bias in our character.

... [T]he object of rational cooperative choice must be an optimal outcome... [I]n non-cooperative interaction the core rationality property is equilibrium, whereas in cooperative interaction the core rationality property is optimality. (Brosio and Hochman 1999: 571–5)

According to Thomas C. Schelling, "sometimes, it is in the best long-run interest of players to foster cooperation rather than confrontation." In his 1960 classic, *The Strategy of Conflict*, he shows how a party could have long-term success by giving up some short-term advantages, even if that meant worsening his own options. "By making concessions, the party could build trust with the other party and that long-run relationship could be more beneficial to both."

Why should citizens within a community be treated differently if they all strive to achieve common goals? If the goals are the same, each individual member of a society has to contribute towards those goals. Logically, inconsistencies and fallacies emerge from a segmented society. But how is it possible to achieve a common mission in which: (1) consumers are assumed to maximize their utilities when they prefer to pay less for the commodities they purchase with given quality;

(2) producers have the ultimate goal of maximizing their own profits, which is possible only if prices of the commodities they produce exceed the average cost of production by the maximum amount possible; and (3) money lenders enjoy the highest possible rate of interest, which is ultimately passed on to consumers? Interest-based loans are, of themselves, independent of shared goals, which may be justified in a self-sufficient and primitive society but not in a community with millions of social interactions. In capitalism, these three segmented and independent groups together comprise a pie composed of wages (w), profits (Π), and interest (r), respectively, where instead of making an orchestrated attempt to increase the size of the pie to the benefit of all, each segment attempts to obtain an ever-larger portion of the pie. There is clearly a conflict of interests here which does not lead to increasing the size of the pie. This is a perfect example of a zero-sum game. This conflict arises, as I understand it, because the distribution of the factors of production is not equity-oriented to begin with. This is why the redistribution of income comes into play and becomes necessary in order to adjust market-determined shares in the hope of reaching justice. To this effect, the literature on welfare economics has produced "the compensation principle" and related topics such as compensation variation and equivalent variation.[17] It can be shown without a great deal of trouble that well-defined principles of cooperation can produce a larger pie from the synergy that results and can distribute that pie on an equitable basis. There is a substantial body of evidence to this effect (see, for example, Brosio and Hochman 1: 571–614).

The conflicting forces evident in capitalism have produced inconsistencies in the literature in that the textbooks on microeconomic theory conventionally start with the assumption of the impossibility of interpersonal comparison of utilities when analyzing consumer behavior. They end up with welfare economics, where every master economist admits that comparison becomes inevitable wherever society tries to maximize the social-welfare function of a community composed of the rich and the poor, which naturally develops in a market economy.[18] While the issue of interest charges in capitalism is taken as settled by Western economists, profits and wages are continuing sources of controversy (see Robinson 1979: 108–11). This points not only to the conflicts of interest between capital investors and laborers but also of a continuing failure to understand the place of money capital in the production function. As we have seen, this

can be understood only when the legalities of money and capital have been distinguished.

The world economy has reached a point where capitalism has to face impartial and unbiased criticism and take it seriously. The miraculous development of advanced industrialized countries in the last century is based upon factors other than interest-based banking and speculation which, according to my analysis, have contributed to the "many objectionable features" of capitalism identified by Keynes. The dichotomy results from ignoring justice when it comes to analyzing the behavior of consumers and producers. Demand and supply derived from this behavior are conventionally treated as independent entities, whereas it is the labor element in the production function that brings about the demand for the commodity produced. This requires that a systematic connection be made between the two to maintain that demand. If this tie is made strong enough and beneficial to both laborers and producers, it will undoubtedly keep demand at the required level and obviate the need for misleading and often deceptive advertising methods. This can only happen when both parties feel that the institution of cooperation will be beneficial to both. It is not hard to disprove the neoclassical assumption that profit maximization is incompatible with justice; and it is justice that is the ultimate goal of an Islamic economic system.

The capitalist system has provided ample evidence to show that the market mechanism alone is incapable of producing justice, and that efficiency and equity are mutually exclusive premises in a totally market system.

A truly Islamic banking system, on the other hand, is one based on interest-free banking and the complete absence of speculation on any durable commodity. Under such a system, the income of individual workers has to be linked to the profits of the firm to which they contribute their labor (see Toutounchian 1379 = 2000). This will in turn increase the investment multiplier (Ibid.: Appendix A) for a simple Islamic macro-model.

In this system, the theory of the firm changes from the conventional notion to become one based upon some of the basic accounting statements. For an excellent effort in this direction, see Mukherji 1984, which attempts to utilize the theoretical framework of the firm set out in Wood 1975. The purpose of Professor Wood's pioneering book was to provide "a new theory of what determines the profit margin of the individual company and the share of the profits in national income" in a way that was "inconsistent with existing

theories of profits, but... consistent with most empirical studies of company behavior." Harcourt 1982 adds further useful insights on the behavior of firms.

One important remark should be made in passing. Economists would undoubtedly learn a great deal from integrating the accountants' approach into their own analyses. By choosing to undervalue or simply ignore the work of their accounting colleagues, economists have passed up many valuable lessons. It was Irving Fisher (1867–1947) who took a first step toward synthesizing the work of the economist with that of the accountant, and his book *Nature of Capital and Income* (1906), presenting the first economic theory of accounting, was much admired by Vilfredo Pareto. Indeed, so well-regarded is the work that Schumpeter asserted that it should be the basis of modern income analysis (Schumpeter 1994: 872).

The literature on the necessity of interest for an economy suffers from the lack of a logical justification.[19] As far as I am aware, no single piece of evidence exists to separate money from capital on the grounds of legality. Surprisingly, it is the belief of most, if not all, Western economists that capital is "a sum of money." Professor Joan Robinson has revived the old question and asked "whether K, quantity of capital, was supposed to be a sum of money or a list of machines." She further acknowledges that the production function has been, or has become, a powerful instrument of miseducation by observing:

> The student of economic theory is taught to write $O = f(L, C)$ where L is a quantity of labor, C a quantity of capital and O a rate of output of commodities. He is instructed to assume all workers alike, and to measure L in man-hours of labor; he is told something about the index number problem involved in choosing a unit of output; and then he is hurried on to the next question, in the hope that he will forget to ask in what unit C is measured. Before ever he does ask, he has become a professor, and so sloppy habits of thoughts are handed on from one generation to the next. (Robinson 1979: 76)

As an eminent authority in the subject and realizing the "defective methodology" in economics and being the first, and probably the best, economist ever to name the very "defective" areas in economics, Professor Robinson has unfortunately failed to correct the defects and to incorporate the necessary amendments into a coherent analytical method.

There seem to me to be two interrelated reasons for the long stagnation of capital theory: improper and misleading usage of the production function, and failing to distinguish "money" from "capital" on legality grounds. My aim in this book is to resolve these shortcomings—even if the endeavor is considered to be merely the first step—by bringing the legal environment in which laborers work into the picture, and integrating money into capital theory through liberating capital from the destructive effects of interest.

EXCHANGE COST, SEIGNIORAGE AND INFLATION

As we have seen in preceding pages, the history of money has been a movement away from barter to commodity monies, and then from commodity monies to commodity standards, and then to fiat paper money.

What accounts for this historical progression and, more importantly, what is the impact of the volume of "money", in whatever form, on the general price level?

The first part of this question has to do with the costs society incurs in using different types of exchange system. Two different costs are involved here: waiting cost [C (W)] and transaction costs [C (T)]. The former relates to the time that elapses between when a consumer decides to buy a commodity and when it becomes his/hers to consume. These costs arise as time passes. In other words, there is a direct relation between waiting costs and time. However, transaction costs decrease as more items are bought, which implies that there is an inverse relationship between these costs and time. Adding these costs by summing vertically, we will get the total exchange cost [C (E)], which produces a U-shaped curve, as shown in Figure 2.9.

Figure 2.9   Total exchange costs
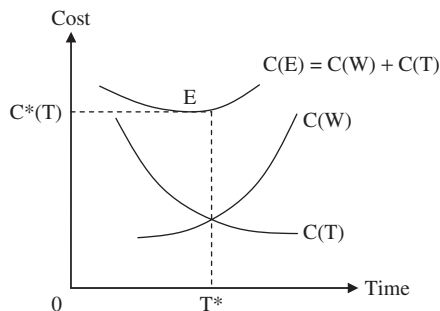
The goal of an individual who seeks to make an exchange is to minimize the total exchange cost incurred. This is shown at point E, where costs are minimum at C* and the optimal amount of time is T*. The explicit transaction costs that individuals incur in making exchanges vary with the type of trading system they use. Under pure barter, these transaction costs are very high for any given time interval. As an economy gradually evolves from pure barter to commodity money, and then to fiat money—the basis of which is a fiduciary arrangement in which trust in the acceptability of money is what gives money value—the total exchange cost decreases.

We do not need at this point to elaborate separately on the demand for money in the form of gold, the commodity standard system, or fiat paper money.[20] Nevertheless, two interrelated subjects concern us here: price stability and seigniorage. Some economists have argued that centralized policymaking can stabilize prices under a commodity standard such as the gold standard.[21] In addition, governments historically have assumed responsibility for the provision of the nation's monetary system.[22] The peculiar nature of money is such that governments have required their citizens to use only government-produced money as the single, legal medium of exchange. If a government assumes this power and enforces its control over the production of money, it becomes the monopoly producer of money and the only entity from which its citizens can obtain a legally recognized, widely accepted medium of exchange.

If governments were to declare that only gold coins bearing an official seal are legal money for transactions in goods and services, we want to explore how the market for gold coin money would function. We also consider the effects of debasement[23] on inflation and, finally, the socially optimal money in an interest-free Islamic framework will be discussed. The analysis of seigniorage in a conventional system has been picked up satisfactorily by Miller and VanHoose (1993). Their analysis is discussed briefly below.

Figure 2.10 shows how many coins the government will produce, and the price of those coins, with the goal being to maximize its profit. Treating the government as the sole producer of legal money, it will produce coins to the point at which the marginal revenue (MR) it obtains from doing so is just equal to the marginal cost (MC) of doing so, at the quantity GC (0). The price it will charge for gold coins [GC] that citizens are willing to pay is P [GC (0)].

Figure 2.10 The monopolistic provision of gold coin money

P[GC]

P[GC(0)]

MC = ATC

GC[D]

MR

GC

0   GC(0)
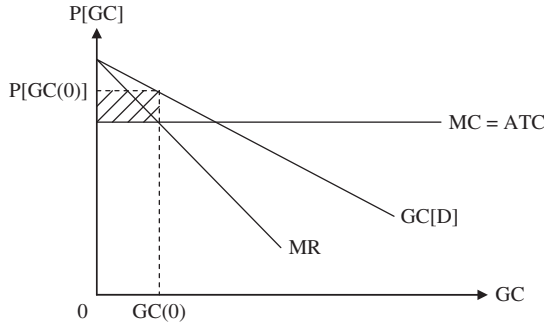
The shaded area is the maximum amount of seigniorage, measured in terms of goods and services, which the government can earn from producing gold coins monopolistically. Note that we measure seigniorage here in terms of real goods and services; which means that it amounts to a real resource transfer from the citizens to the government. Hence, seigniorage really amounts to a tax that the government imposes on its citizens.

To maintain demand for the coins, the government imposes stiff penalties for violating its laws concerning the use and treatment of gold coins. If in the conventional system seigniorage is considered to be an important source of revenue for the government, it might view severe penalties for using other forms of money as a so-called rational policy.

In a system where ways have been found to reduce the marginal cost (MC) of production through debasement, it becomes profitable for the government to produce more coins. The effect of debasement is illustrated in Figure 2.11.

Figure 2.11 The effects of debasement on quantity, seigniorage and inflation

P[GC]

P[GC(0)]   M   A

P[GC(1)]   N   B

MC(0) = ATC(0)

MC(1) = ATC(1)

MR

GC[D]

GC

R   S

0   GC(0) GC(1)
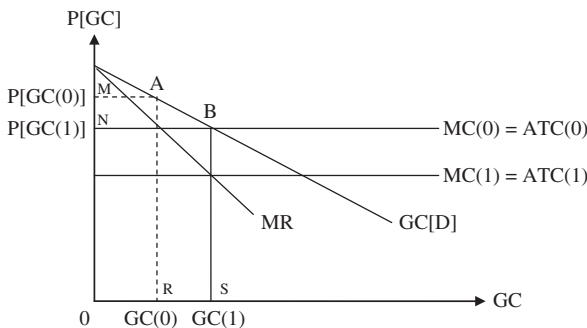
The quantity of gold coins produced to maximize seigniorage increases from GC (0) to GC (1), and the seigniorage-maximizing price charged by the government falls from P [GC (0)] to P [GC (1)]. The area of the seigniorage rectangle increases from OMAR to ONBS. Because the reciprocal of the price of gold coins is the level of prices of goods and services, the fall in the price of gold coins implies a rise in the price level, or inflation. Although debasement increases seigniorage, it also causes inflation.

Traditionally, governments, especially those in Europe, have relied on seigniorage rather than direct taxation to finance government expenditures. There is evidence to indicate that those nations with higher seigniorage levels are also those with higher average inflation rates (Miller and VanHoose 1993: 36). This, of course, accords with the theory of seigniorage. High seigniorage and high inflation go together; hence inflation tax. The tendency toward decline in seigniorage causes problems for capitalist systems in the sense of forcing them to consider cutting back on spending or enacting direct tax increases.

THE SOCIALLY OPTIMAL PROVISION OF MONEY IN THE CAPITALIST SYSTEM

Economists traditionally believe that the economy achieves allocative efficiency in the production of goods and services when the price that members of society pay for the goods or services is just equal to the marginal cost (MC). According to Western economists, when the good in question is money (say, gold coins), the economy achieves allocative efficiency if the price of gold coin money is equal to the marginal production cost.

There are two ways in which an economy might achieve allocative efficiency in the production of gold coin money. One way would be for private firms to produce gold coins competitively. The industry would be perfectly competitive, and the constant marginal cost (MC) schedule would be the supply schedule for the industry. This would be true because each firm's supply schedule would be the same marginal cost schedule. Summing these schedules horizontally would then produce the same horizontal schedule.

The second way to achieve allocative efficiency would be for the government to take sole control of the process. Instead of maximizing its seigniorage, however, the government could choose to produce gold coins to the point at which the price it charges is equal to

the marginal cost (MC) it incurs to produce the coins. The socially optimal quantity of gold coins produced in both cases would be equal to GC (*) in Figure 2.12. At this price, given our assumption that the marginal cost (MC) of producing gold coins is constant and equal to the average total cost (ATC), the government earns zero seigniorage.

Figure 2.12   The socially optimal provision of gold coin money
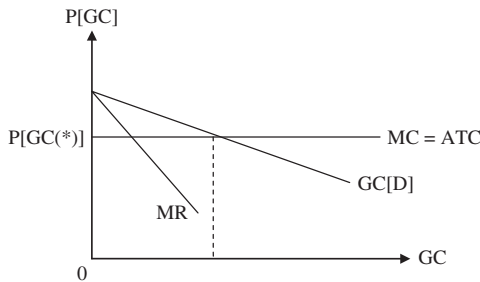
Economists disagree about which approach is more likely to succeed. Some argue that we cannot trust governments to forgo seigniorage in the interests of their citizens. Others believe that a free, competitive market may, for a variety of reasons, also fail to produce allocative efficiency. In the end, the thorny question of whether efficiency is necessarily compatible with equity (the so-called efficiency–equity trade-off) remains unanswered. Below, we examine this point in an Islamic interest-free banking system.

INTEREST (*RIBA*) IN ISLAM

We have concentrated up to now on Western approaches to interest, but how is the subject dealt with by Islamic economists? In examining the scope of interest on money, we adhere to the valuable Judgment on Interest produced by the Pakistan Federal Shariah Court in 1995.[24] Unless otherwise specified, all the following assertions are adopted directly from this valuable work. These include:
The definition of *Riba* as:

> The excess amount chargeable over and above principal in lieu of time and by way of a condition. The definition is applicable both to contemporary simple and compound interest. Excess, whether a penny worth or compounded to many fold, is *Riba* if the same is stipulated at the time of contract (p.245).

To resolve the misunderstanding about simple and compound interest, the assertion is:

> Some scholars have misunderstood the verse "Devour not *Riba*, doubling and quadrupling," interpreting thereby that the *Quran* bans only compounded Interest but not simple interest... The verse was revealed to discard the anti-social pre-Islamic custom. That is why they are warned of their selfishness by adding the word doubled and quadrupled. This does not mean that if interest is not thus multiplied, it would become acceptable. Absolute prohibition of interest appears in the other two verses... An examination of the contemporary practices of interest would suggest that it multiplies itself firstly by becoming a part of capital for relending and, secondly, by debt servicing retaining the principal intact (263–4).

With respect to savings accounts:

> Interest [that is, any nominal excess over and above the principal amount deposited and being the obligation of the bank] accruing on the Provident Fund or Saving [bank] Account comes under *Riba*... The Account as in vogue consists of *Riba* (383).

With respect to the opinion of the *Fuqaha* (*Shariah* scholars in Islamic jurisprudence):

> ... an excess over and above the sum lent would become interest and is treated to be strictly prohibited. This fact is borne out in the *Quran*, the Holy Prophet's (peace of Allah be upon him) tradition and the detailed discussion by all the *Fuqaha* of all the schools of thought without any exception (127).
>
> Islamic Fiqh Academy, Jeddah, which is the representative body of the Muslim world, has declared bank interest in all forms and on all accounts as *Riba*, prohibited in Islam (11).

At this point, it should be clear that a sharp distinction exists between a "loan" and all other Islamic modes of contract. A loan, by definition, is a temporary abstinence from using a sum of money and is generally paid by the lender, the abstainer, to the borrower, the user of the money, for whatever purpose the borrower has borrowed and for an excess over and above the principal amount, varied on the

basis of the time period of the loan. It is, further, the obligation of the borrower to pay back the principal amount of loan plus the agreed excess. The lender does not have any claim over the outcome of the use to which the borrower puts the money as long as the lender receives the principal plus the excess. The lender can obtain a warranty from the borrower to ensure both parts of this obligation are met. The excess is, obviously, independent of the outcome of the purpose for which the loan has been borrowed. This independence makes it realistic to consider the excess as ''the cost'' to the borrower. Finally, in a loan contract, the legal aspect of money remains intact in that it does not have to be involved in ''investment'' in its strict sense. It could be used in any activity—consumption, speculation or investment. Unlike an equity fund, a loan, or debt fund, is the liability of the borrower. In the case of a *Musharakah* contract, for instance, the equity fund composed of each partner's money is pooled and no one is responsible for another partner's share. They all have inseparable responsibility to the extent of their individual share of the whole.

Riba occurs when the borrower is obliged, by whatever means, to pay back an excess, over and above the nominal principal. Such excesses are strictly forbidden in Islam. Even in *Qard-ul Hassan* loans (which are generally short-term and for small amounts), the only obligation on the borrower is to repay the principal. All Islamic contracts are strictly purpose-oriented and each party to the contract must know the exact purpose and, in some cases, the period of time for which they have agreed to sign the contract. The signed contracts, with all the pre-specified conditions, make them very different and distinct from loans. The central issue in Islamic contracts lies in the fact that it is a legal device which transforms the legal nature of money to that of ''capital.'' For reasons that will be made clear later, I prefer to use ''asset'' rather than ''capital'' in order to avoid any confusion and misunderstanding, and to bridge the gap that exists between the different connotations employed by economists and accountants about these two concepts. As I see it, ''loan'' stands in the same relation to Islamic contracts as bonds do to stocks. The interest paid to bond-holders is considered as a cost to the issuer of the bond but not the dividend paid to the stock-holder by the stock-issuer. The obligation of the bond-issuer has to be clearly distinguished from that of the stock-issuer. This distinction plays a crucial role in distinguishing Islamic banking practices from those of conventional banking. Ironically, this important point has slipped the mind of many Muslim scholars. Conventional banking is based on loans received

from depositors and loans granted to customers. An Islamic bank behaves, on the one hand, as the advocate of depositors and, on the other, as the partner of potential investors. When it comes to signing contracts with investors, the Islamic bank behaves as one of the partners to the contract, both on behalf of depositors and of itself. In essence, this makes Muslim depositors shareholders in the investment projects the Islamic bank signs with potential investors.

Writers such as Khan and Mirakhor have failed to distinguish between loan contracts and Islamic contracts, and they seem to have found it hard to digest the legal differences as well as the economic consequences of such differences. Consequently, all the results they have obtained are meaningless and devoid of any Islamic nature and content. Their lack of proper understanding has led many of the so-called Islamic banks for which they have consulted away from practicing true Islamic banking.

Let us return now to the judgments about *Riba* made by the Pakistan Federal Shariah Court, which points out that "interest and Islam cannot remain together in a (Muslim) society" (83).

Having made clear what the nature of a loan is, the Court says, "it may, therefore, be stated that *Riba* forbidden in the *Quran* and *Sunnah* includes interest due on the loans taken or given for commercial and productive purposes by banks or other financial institutions" (92).

With reference to Dinar and Dirham (see Chapter 1) it says: "Guided by the *Hadith*, the *Fuqaha* have pointed that in case Dirham or Dinars are lent out by counting, they will be paid back by counting, not by weight. Similarly, in case these are lent out by weight, they will be returned by weight, not by counting (127)".

On the verdict made on commodity loans, it is interesting to note the following: "In respect of the loan of a commodity, it is further provided by the *Fuqaha* that it should be returned in the same kind and quantity irrespective of any change in its price at the time of return of the loan." (Ibid.) It notes also, however, that "there is a considerable juristic opinion available to the fact that an increase to offset the inflation would have legal justification and would not be counted as *Riba*" (53).

However, we need to elaborate on these last two verdicts, on several grounds:

a.   The opinions expressed are not necessarily the verdict of one jurist. However, if it happened to be one person's verdict, they

would necessarily be contradictory unless the jurist has cor-
rectly made the distinction between money and commodity.

b.   It is not clear in the second of these as to whether it is
applicable to a "loan" or potential capital (that is, deposits)
made by Muslims in an Islamic society. If it happened to be
restricted to loans (that is, *Qard-ul Hassan*) it would seem
to be justified; but if it is not, and it refers to a truly Islamic
banking system in which deposits are share-holdings in invest-
ment projects undertaken through Islamic banks on behalf
of depositors, it runs into a problem in that the verdict has
failed to make a distinction between loan and Islamic con-
tract. At this point, I would like to make a strong assertion
that is subject to verification in theory as well as practice, as
follows: If Islamic banking is properly launched using Islamic
contracts, then inflation, if any, is automatically taken care
of. This assertion can easily be derived from the mere fact
that money and Islamic banking will no longer be exogenous
to the system, but endogenous. The evidence of economic
history throughout the world has shown that dealing with
the monetary sector independently from the real sector will
necessarily make the system unstable. An important symptom
of instability is inflation, or unemployment, or both simulta-
neously. Let us briefly go over the other part of the assertion
that seems to have been ignored by jurists.

Islamic banks take part of the profits earned based on
preconditions set out in the signed contract. Profits are, by
definition, the difference between total revenue (TR) and total
costs (TC). Total revenue is, in return, the product of the price
of the commodity sold multiplied by the quantity sold. Any
probable inflation is reflected in total revenue terms. In other
words, in Islamic contracts the depositors are, automatically,
hedged against inflation—as opposed to a loan, where the
lender is always worried about the probable decline in the
purchasing power of the principal lent out.

c.   If the verdict refers to the decline of the purchasing power
of the deposits made in an Islamic bank, it is worth the
reader's while to note the results obtained by the author's
experiments on the data of 12 highly advanced industrial
countries (Toutounchian 1379 = 2000: Chapter Five). The
results show that inflation is deeply rooted in interest-based
loans and speculation (on money or any other durables),

these being the principal sources of money creation. Given that the statistical results are correct and reliable, the verdict has failed to recognize the real cause of inflation; hence a different verdict is called for, and soon.

To end this section, let us see what the most celebrated economist of the century, Lord Keynes, has to say about interest:

> It should be obvious that the rate of interest cannot be a return to saving or waiting as such. For if a man hoards his savings in cash, he earns no interest, though he saves just as much as before. On the contrary, the mere definition of the rate of interest tells us in so many words that the rate of interest is the reward for parting with liquidity for a specified period. (Keynes 1936: 166–7)

Though he doesn't say so explicitly, it is clear from the fact that he includes time as one of the essential components of interest that Keynes is referring to a loan contract here. His definition substantiates ours in such a way as to prevent any misunderstanding. He further observes that "the rate of interest is, in itself, nothing more than the inverse proportion between a sum of money and what can be obtained for parting with control over the money in exchange for a debt for a stated period of time" (Ibid.: 167).

This last statement seems to remove any possible confusion about our definition in that it contains all the elements for interest to prevail. Additionally, it substantiates our formulation (1–5) for the interest rate emerging from speculation. Finally, he is quite clear on the equilibrating force behind the rate of interest: "The rate of interest is not the 'price' which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption" (Ibid.).

Again, this statement clearly demonstrates that the rate of interest is the outcome of the money market and not that of the real sector. Yet, strikingly, there are many writers who still believe that interest (rate) cannot be avoided as long as economic forces are in play, even in an interest-free Islamic system!

A Note on Demand for Money in an Islamic Economy

Ignoring the mutual relationship between interest rate and speculation led classical economists to believe that money was used solely for transactions and not for speculation. Although their ignorance about

speculation could partially be traced back to its unimportance in those days, we have no such excuse today.

Based on the argument laid out above, it is an absolute mistake not to condemn speculative demand for money in an Islamic framework. For writers such as Khan and Mirakhor, who still have a problem accepting this, it should suffice to ask themselves why Keynes asserted that there are as many rates of interest as there are durable goods in an economy (Keynes 1939: 222–3) and how they emerge. A master economist with a good command of both capitalist and Islamic schools of economic thought would never make such a mistake.

As we saw in the previous chapter, Khan and Mirakhor tried to develop an IS-LM curve apparently based on Islamic interest-free banking without any justification as to its relevance (Khan and Mirakhor 1987: 15–35). By changing "real rate of interest" to "real rate of return" they 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" (Ibid: 26). In conclusion, they cheerfully acknowledge 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" (Ibid.: 31). Such writers are probably still laboring under the misapprehension that they have resolved this confusion and may not be aware that they have succeeded only in adding new problems.

The model they extol does, according to Khan, "provide a reasonable portrayal of the types of Islamic banking systems that have been put into practice in certain countries" (Ibid.: 31). One such country is Iran which, despite its admirable analysis of the Law of Usury-Free Banking Operations, has unfortunately adopted a path that features many of the "objectionable features of capitalism"—inflation, unemployment, stagflation, and the inequitable distribution of income and wealth.

To be safe from any harmful features of capitalism, we should re-read Keynes' *General Theory* carefully; something many Muslim economists have failed to do. This failure has resulted in confusion and the misconceptions we have been analyzing in this book. Many have totally failed to distinguish the fundamental differences that exist between the two systems and a great deal of writing on the subject has blindly followed the fallacies and inconsistencies promulgated by the like of Khan and Mirakhor.

The Socially Optimal Provision of Money in an Islamic System

Nowadays, the policy of zero seigniorage is no longer an issue in that no single country issues gold coin money, even in the debased form. This leads to the conclusion that central banks (that is, governments) profit even more from printing fiat paper money, which results in inflation. Nevertheless, there are some economists[25] who believe that reviving the gold standard or going back to gold coin money will automatically reduce inflation. I would argue, however, that the roots of inflation are to be found elsewhere, in the interest-based system whose immediate result is speculation in all markets, regardless of whether the medium of exchange is full-bodied gold coins or fiat paper money.

Based upon our earlier demonstration that money is an ''impure public good'' and the universal assumption that central banks are to be the sole producers of money, Figure 2.13 shows how money, in any form, could be managed in order to produce the lowest general price level ever.

Figure 2.13   The socially optimal provision of money in an Islamic system
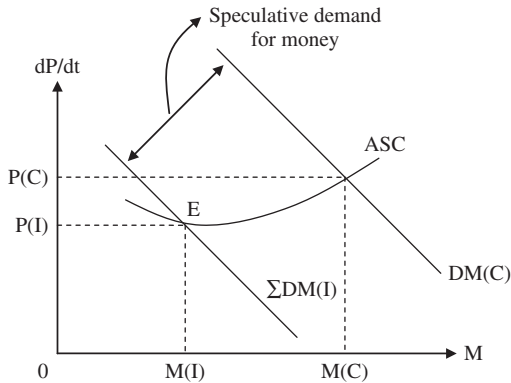
The quantity of money, (M), is measured on the horizontal axis and changes in the price level, (dP/dt), are shown on the vertical axis. ASC is the average social cost of printing money and shows that as more money is printed the price level declines until it reaches it the optimal point, E. If the supply of money is increased beyond this point, this will lead to a higher general price level and finally to inflation. DM(C) and $\sum$DM (I) represent demand for money in capitalist and Islamic systems, respectively. Note that DM(C) includes both transactions and speculative demand for money. The corresponding price levels

and supply of money in this system are P(C) and M(C), respectively. However, if speculative demand for money is removed from DM(C) as a result of the abolition of interest, the demand for money in an Islamic state becomes $\sum$DM (I). As is evident, this demand schedule produces less inflation (if any) than the conventional system.

Some further elaboration is needed in the case of $\sum$DM (I). This schedule, based on money being an impure public good, is the vertical summation of all the demanders. The summation sign, $\sum$, has been used to denote this point in an Islamic setting. However, in the case of DM(C), we treated money as a private good (as is customarily the case in capitalism) whose value is determined by horizontal summation of all individual demand curves. It should also be noted that if the social cost of producing more money had been accounted for, both price level and supply of money would have been even higher because of the maximizing behavior of capitalist central banks. This treatment simplifies things somewhat to make it easier to compare the consequences of seigniorage in both systems. We have further treated the central bank as a natural monopolist with sole responsibility for printing and managing the supply of money.

The results obtained in Figure 2.13 might seem to contrast with the standard results, which show that the private sector produces less than optimally for a public good. This phenomenon, which we will refer to as the "seigniorage paradox," might be used to explain the roots of inflation. This seeming paradox can be resolved in two ways: (1) the inverse relationship of the value of money with the consumer price index is sufficient to explain the result we have obtained, in that money and goods cannot be treated equally and with the same standard(s). If this finding is sound and justifiable it can be one of many novel features of our theory; and (2) the removal of speculative demand for money, which decreases both the demand for and supply of money, can be compensated for by the increased velocity of money in an Islamic system (as demonstrated earlier) and close any possible gap.

The most important conclusion of this analysis is to point to the possibility of having an economy with the least (if any) inflation, associated with the optimal level of money supply which guarantees zero seigniorage. It also leads us to believe that money has to circulate—permanently and at a regular pace—in the economy, with no money whirlpool resulting from speculation of any kind in any market for durable goods. As with the circulation of blood in the body, even a slight stagnation or default in its circulation can have fatal consequences. This is the lesson we should have learned since

the Great Depression of 1929–33 and subsequent crashes, but many Western economists believe that this will happen again. Indeed, this pattern will repeat itself unless the system undergoes the kind of radical surgery advocated in these pages.

NOTES

1 Cited in Cassel 1957: 2.
2 See Makinen 1977: 14–28, on which much of the following section draws.
3 See Eagly 1974: 72–3.
4 See, for example, Tullock 1975: 491–7.
5 Ibid.: 491.
6 As cited by Mario deSantis in "Economic Fundamentalists Alan Greenspan and Milton Friedman (The Gospel of the Interest Rate and the Gospel of the Stock Market)," Internet address:file://A:\fundamentalists.htm and based on two articles by Dean Baker: "The New Economy Goes Bust: What the Record Shows," October 29, 2001 (http://www.cepr.net/new_economy_goes_bust.htm) and "An End to Self-Defeating Rhetoric," http://www.tompaine.com/opinion/2001/07/10/2.html.
7 In 2001, unemployment cost the German federal and local governments €70.5 billion (US$69 billion), according to a report in *Die Welt* newspaper. Of that figure, 55 percent was paid to the jobless, the balance representing losses in tax revenues and social security contributions. Japan's unemployment rate climbed to a record high 5.4 percent in October 2001.
8 "Worst Crisis Since '30s, With No End Yet in Sight," September 17, 2008.
9 Federal Reserve Bank of Cleveland, "Economic Commentary," May 15, 2001.
10 The efficient-market hypothesis asserts that financial markets are "informationally efficient," or that prices on traded assets—stocks, bonds or property, for example—already reflect all known information. The EMH states that it is impossible to consistently outperform the market by using any information that the market already knows, except through luck. Information or *news* in the EMH is defined as anything that may affect prices that is unknowable in the present and thus appears randomly in the future.
11 *Salam* is a contract in which advance payment is made for goods to be delivered later on.
12 *Kali be-Kali* is a contract in which payment is going to be made in future for goods to be delivered in future.
13 A contract of acquisition of goods by specification or order, where the price is fixed in advance, but the goods are manufactured and delivered at a later date. Normally, the price is paid progressively in accordance with the progress of the job.
14 The bank loan rate, according to classicists, may not coincide with the natural rate. For example, if the loan rate is below the natural rate, the demand for loans would be insatiable; and inflationary pressure would be created in the output market. The cumulative process of inflation would come to an end only when the bank rate had been raised to again equal the natural rate. For further details, see chapter seven of Aschheim and Hsieh 1969.
15 Collected Economic Papers (1951–80), 6 vols., Vol.ii: 17; Basil Blackwell, Oxford.
16 Cited in Cassel 1957: 38.
17 See, for example, Kaldor 1939; Hicks 1939b; Graaff 1975: 86–114; Nath 1976: 95–101; and Dobb 1976: 86–118, to name but a few.
18 In this regard, see Little 1963; Graaff 1975; Nath 1976; Layard and Walters 1978: 3–52; and Just, Hueth and Schmitz 1982.
19 During the past few centuries, many Western economists have undoubtedly endeavored to clarify the problems surrounding interest and capital and, in so doing, have made valuable contributions to the subject. In addition to those we have reviewed, others who have had a substantial impact on succeeding generations include the second-generation English marginalists Francis Edgeworth, Philip Wicksteed, and Alfred Marshall; the Swedish economist Knut Wicksell (1851–1926) and the Americans John Bates Clark (1847–1938) and Irving Fisher. For a more detailed discussion of their respective contributions, see Rima 1996: 205ff.
20 See Miller and VanHoose 1993: 25–32.
21 See, for instance, Barro 1989 and Bordo 1981.

22 I believe that this historical event has its roots in the peculiar nature of money as naturally being an ''impure public good,'' as discussed earlier.

23 Debasement is the reduction in the quantity of a precious metal in a metal coin issued by the government.

24 Pakistan Federal Shariat Court: ''Judgment on Interest (*Riba*),'' Islamic Research and Training Institute, Islamic Development Bank; Islamic Economics Translation Series No.8; Jeddah, Saudi Arabia, 1995. ''*Shariah*''/''*Shariat*''/''*Shari'ah*'' refers to the laws contained in or derived from the *Quran* and the Sunnah.

25 See, for instance, Barro 1989 and Bordo 1981.

A Legal Perspective on Islamic Finance

CAPITAL THEORY: A BRIEF RECAPITULATION

> *What a mass of confused, futile, and downright silly controversies it would have saved us, if economists had had the sense to stick to those monetary and accounting meanings of the term [capital] instead of trying to "deepen" them!*
>
> Professor J. Schumpeter

What is it that is so important about "capital" that it should cause so much controversy? It was once claimed that "when economists reach agreement on the theory of capital, they will shortly reach agreement on everything else" (Bliss 1975: Preface). Yet, after centuries of debate, we are still far from reaching a theory subscribed to by even a small majority of economists. Indeed, there is not even agreement as to what the subject is about. While past efforts have undoubtedly improved our understanding considerably, it is clear that a new theory and a different approach are needed.

It would pay us to begin our discussion and analysis of capital theory by outlining a few of the problems associated with the existing literature:

- "Capital" has a dual role to play: as an aid to production; and as the owned property of a particular class, enabling capitalists to share in the distribution of national product. (Harcourt 1982: 229)
- Capital, to some economists, has to be measured in a unit which is independent of distribution and prices.
- The classical economists did not treat society as a cooperative, or capital as a quantity of homogenous stuff. (Robinson 1979: 124)

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- The vagueness of the concept led some prominent economists to revive the old question of whether the quantity of capital was supposed to be a sum of money or a list of "machines." (Ibid.: 117)
- Some economists stressed again and again that it is the meaning, rather than the measurement, of "capital" which is at issue. (Harcourt 1982: 229 and 355)
- There does not seem to be a clear-cut distinction between capital and money, both of which are of a loan character but have different time periods.
- Economists have not yet reconciled the distinction between rate of interest and rate of profit in that they still attribute the former to the reward of capital and the latter to the reward of the entrepreneur.

But this does not mean, however, that there has been no progress in the analysis of capital, and there is much to be learned about the history of economics from examining the reasons why the focus of intellectual inquiry was on politics, ethics, philosophy and theology rather than on economics per se. It should be noted that the term was hardly used in the seventeenth century, but terms like "wealth," "riches" and "stock" were. Indeed, throughout the eighteenth and early nineteenth centuries, "stock" was the favored term used in nascent capital theory (Schumpeter 1994: 323).

Stock, in the sense of either durable or productive wealth—the latter emphasized by Josiah Child (1630–99)—was the object of attention and of recommendations. According to Schumpeter, the credit for laying the foundations of a capital theory should be given to François Quesnay (1694–1774). Quesnay directed his inquiries toward explaining the nature and creation of wealth, and the relationship that the mode of its circulation bears to the well-being of the economy. The whole process starts from given "advances" and runs on in annual advances. These advances are goods—to live on or to produce with—though their quantity may be expressed in monetary terms and they are, according to Schumpeter, precisely what capital means in one of the many senses of the word. Turgot sketched out the corresponding theory of capital, emphasizing that wealth other than natural agents is indispensable for all production, thus lending his weight to future attempts to treat capital in this sense as a factor of production.

Adam Smith laid down the theory of saving and investment by stating that "parsimony, and not industry, is the immediate cause of the increase of capital;" that "it puts into motion an additional quantity of industry;" that it does so immediately (without lag) for "what is annually saved is as regularly consumed as what is annually spent" (Schumpeter 1994: 324). However, it was Turgot who must be credited with the first serious analysis of these matters. In rejecting the Schoolmen's theological argument about the sterility of money and the impropriety of taking interest, Turgot drew a distinction between money as a means of facilitating the exchange of goods, and money as capital which, when it is "employed in advances for enterprises in Agriculture, Manufacturing and Commerce procures a definite profit." His vision of the economy as a user of capital in manufacturing activity—and not just in agriculture, fishing, and mining, as in Quesnay's conception (Rima 1967: 79)—reflected an advance in understanding, for it led readily to the principle of division of labor. It also led to the notion of the "lengthening of the time period of production", which was central to the nineteenth-century contributions of Böhm-Bawerk and his peers.

In many aspects, Turgot's theory has for many economists proved to be almost unbelievably hardy. While Schumpeter is doubtful whether Alfred Marshall advanced beyond it, he is certain that Mill did not. The theory was not only accepted by a large majority of economists but one economist also continued to repeat the idea that (voluntary) saving was capital creating. This idea was pushed far beyond practical evidence in that it was interpreted to mean that every decision to save coincides with a corresponding decision to invest, so that saving is transformed into (real) capital. To put it differently, saving practically amounts to supplying (real) capital. It was admitted that in depressive situations, the likelihood of hitches may paralyze the mechanism described by Turgot and cause saving to become a disturber of the economic process, and hence possibly a destroyer of a creator of industrial apparatus. To put it differently, the attempt to save more, and thus consume less, lowers income, and the total savings out of reduced income are less than before; this is the paradox of thrift.

However, had Turgot been more specific on the consequences of speculation arising from interest on a loan, he would not have made the statement that none of the proprietors (or otherwise) make any use of saving other than to convert it immediately into the different kinds

of effects upon which their undertaking depends. This statement rules out the possibility of there being any speculation and unemployment, which transforms itself into the inequality between savings (S), and investment (I)—the so-called savings gap. Through neglecting that part of the saving channeled through speculative activities, unemployment due to S > I will certainly prevail—as Keynes was to discuss fully in his *General Theory*.

When Adam Smith addressed himself to the matter of distribution, he correctly recognized the problem as being the division of a nation's product among the laboring class, the capitalist class and the landlord class. Following Smith, it then became the classical tradition to explain wages, profits and rents as the incomes of "the three great social classes". Modern economists think of labor, capital and entrepreneur as factors of production that receive functional returns for their productive contribution to the economy's product. The interdependence between the problems of value and distribution that modern scholars perceive was not a matter emphasized by Smith.

The profits of stock [capital], said Smith, are closely related to the wages of labor, falling when wages rise and increasing when wages decline. Their average level depends on the accumulation of stock. It is evident that Smith thought of increases in stock as the source of additions to the wage fund. Increases in stock are generally associated with falling profits as well as rising wages, for mutual competition in the same trade will reduce the rate of return.

Like Turgot, Smith opposed the prohibition of interest, maintaining that it increases rather than diminishes the evil of usury, for nobody will lend without such a consideration for the use of his money. The term "interest" was used by Smith, and indeed by others before him, as a payment made for the use of borrowed funds. With regard to the rate of profit, Smith believed that the average would be in the neighborhood of approximately double the rate of interest on well-secured loans (Smith 1776 1: 40 and 87).

According to Smith, as soon as land becomes privately owned, rent appears as another natural price; so profit comes from the accumulation of stock (capital). Stock, in Smith's terminology, embraces the stock of things on which households live and the capital employed to yield a revenue or profit to its employer. Capital, in turn, he divides into circulating capital—used in raising, manufacturing or purchasing goods and selling them again at a profit—and fixed capital—machines or "such-like things as yield a revenue or profit without changing masters" (Ibid.: 261–2].

Circulating capital itself he divides into four: (1) the money by which the other three types are circulated and distributed to their customers; (2) stocks of provisions in the possession of shopkeepers, brewers, farmers, and so on; (3) work in progress (though he does not use this term); and (4) finished goods still in the hands of manufacturers or merchants. "Of these four parts three, provisions, materials, and finished work, are, either annually, or in a longer or shorter period, regularly withdrawn from it, and placed either in the fixed capital or in the stock reserved for immediate consumption" (Ibid.: 265). It is worth noting that it is from this real conception of circulating capital that the notion of the wage fund emerged.

David Ricardo followed Smith in the treatment of capital as a fund for the employment of labor: "Capital is that part of the wealth of a country which is employed in production and consists of food, clothing, tools, raw materials, machinery, and so on, necessary to give effect to labor" (Ricardo 1817: 95). However, this appears to be the only point of similarity between Ricardo and Smith. Ricardo took conditions for durability as the distinguishing feature between fixed and circulating capital. He further rejected Smith's explanation of the effect of accumulation on profit by taking the position that "no accumulation of capital will permanently lower profits, unless there be some permanent cause for the rise of wages" (Ibid.: 289). He suggested that "The natural tendency of profits then is to fall; for, in the progress of society and wealth, the additional quantity of food required is obtained by the sacrifice of more and more labor" (Ibid.: 120).

As Kregel has pointed out, Ricardo thought "that labor could serve as a measure for the accumulation of stock. It is in this relation of labor embodied to value and price that Ricardo takes the most concern over capital" (Kregel 1976: 24). Ricardo was also concerned with the distinction between fixed and circulating capital and the time period of production:

> It appears then that the division of capital into different proportions of fixed and circulating capital, employed in different trades, introduces a considerable modification to the rule, which is of universal application when labor is almost exclusively employed in production; namely, that commodities never vary in value, unless a greater or less quantity of labor be bestowed on their production. (Ricardo 1817: 38)

Ricardo placed emphasis on the period of production by pointing out that "commodities which have the same quantity of labor bestowed on their production will differ in exchangeable value if they cannot be brought to market in the same time" (Ibid.: 37).

Ricardo's emphasis on labor and time period had a strong influence on the Austrian approach to capital theory, epitomized by the work of Böhm-Bawerk, a basic distinguishing feature of which is the ordering of goods in the production process, from original inputs to final outputs. Here, consumption goods are called "goods of the first order." On a higher level are intermediate goods, those which serve as inputs for the production of goods of a lower order. Thus, all goods except those of the higher order (original goods) are produced goods used in the production of goods of a lower order, until final, or first-order, goods are consumed. Thus, the valuation of goods works as a chain or process of production: the values of the goods of the first order then determine the value of the higher-order goods that have been used as inputs and so on, as value is imputed to the original factors of production.

Despite Böhm-Bawerk's undoubted contribution to our understanding of capital, it remains to be seen how his theory contributes to our further understanding of the meaning of capital. Capital cannot be seen as an original or independent factor of production (good of the highest order) because, in his conception, only land (or, more broadly, natural resources) and labor are naturally occurring goods and thus fit the definition of goods of the highest order in that they are not themselves produced but enter into the production of other goods (see Kregel 1976: 28–34).

As capital goods are produced goods under this formulation, they are no different from any other intermediate or middle goods and the problem of capital and its return becomes, "in the last resort," simply "a problem of value" (Böhm-Bawerk 1890: 425). Of the number of stages of intermediate goods required between the highest- and lowest-order goods, he had this to say:

> All consumption goods which man produces come into existence through a cooperation of human power with natural powers, which latter are partly economic, partly free. By means of these primary productive powers man may make the consumption goods he desires, either immediately, or through the medium of intermediate products called Capital. The latter method demands a sacrifice of

time, but it has an advantage in the quantity of product, and this advantage although perhaps in decreasing ratio, is associated with every prolongation of the roundabout way of production. (Böhm-Bawerk undated: 91)

In the Austrian view, there are two original productive powers: labor power and the powers of nature. Capital is thus not a thing, but a way of temporally and physically combining labor and natural resources to produce intermediate goods, which are not used for consumption but whose production allows a greater production of consumption goods per unit of labor expended.

In order then to determine why capital should have a positive return, Böhm-Bawerk poses two questions: (1) How does capital originate? and (2) What is the nature of capital's productive work? The first question has to do with the theory of the formation or accumulation of capital; the second, with the productive function of capital (Ibid.: 75. The reader is also advised to see Kregel 1976: 31–4).

What the Austrian position implies about capital is that the more capitalistic the production process, the more stages (or ranks of intermediate goods) there are between the original application of land and labor and the production of final (first-order) goods; and that this increase in the length of the process is associated with a similar increase in the quantity of final goods available at the end of the process.

Although initially convinced by the concept of an average period of production expounded by the Austrian scholars, the Swedish economist Knut Wicksell (1851–1926) eventually abandoned it as he continued to integrate this with other approaches. He was "the first economist to notice that there was an ambiguity in the application of the theory of rent to capital taken as a whole" (Kregel 1976: 39) and believed that while final productivity could be determined for land and labor on an individual or aggregate basis, it could not be applied to national capital on an aggregate basis: "If we consider an increase in the total capital of society, then it is by no means true that the consequent increase in the total social product would regulate the rate of interest" (Wicksell 1934: 148). The divergence can be explained as follows: whereas labor and capital are measured in terms of their respective technical units (for example, working days or month; acre per annum), capital is calculated as a sum of exchange value—whether in money or in average products. Or, to

put it another way, each particular capital good is measured by a unit extraneous to itself (Ibid.: 149).

As noted in earlier chapters, the literature on the subject of capital has been unduly associated with the rate of interest. However, the dependency would make sense if it could be shown that not only is interest the return to capital but also that there is no such thing as a money market from which interest rates emerge. The problem encountered by many economists is that they have often failed to distinguish capital (and its productivity) from money, and the capital market from the money market. More importantly, changes in capital are a long-term concept, while the money market (and the rate of interest emerging from it) is a short-term phenomenon. This makes the comparison even more complicated, if not baseless.

Wicksell relates Böhm-Bawerk's theory to his own concept of capital structure. The capital structure reflects the "height" and the "width" of the land and labor inputs invested in real capital goods. The width of the capital structure is the number of land and labor inputs units invested, while its height reflects the length of time over which such inputs must remain invested before the maturation of their services in production. Wicksell's capital structure was intended to provide an invention on national income and the relationship between the distributive shares. He reasoned that, given a constant supply of labor and land, net investment initially expands the capital structure by extending its width. Subsequent expansion extends its height; that is, "capital deepening" as opposed to "capital widening." Expansion of the capital structure always increases the national income by the marginal product of new investment. Accumulation increases the height or intensity of capital as well as the width because the profitability of investments of longer maturity becomes greater as wages and rents rise. The classicists anticipated that the trend toward a zero rate of interest would accompany the tendency toward a stationary state. Although this misdirected conclusion, which had produced a great deal of confusion and misunderstanding, was challenged by Wicksell on the grounds that a zero rate of interest would not come about in an economy in which there is capital growth, Wicksell thought of capital in the Austrian sense—that is, that higher-order goods eventually "mature out." He argued that as products of these goods are continually being absorbed by rising wages and rents, the supply of capital (goods of a higher order) never becomes large enough to reduce its marginal productivity to zero. (For further analysis, see Rima 1967: 296–303).

Again, the connection the classicists and Wicksell made between the marginal productivity of capital and the rate of interest is not clear. The marginal productivity principle (or von Thunen's Law, as Wicksell called it)—that the rate of interest should tend to be equal to the social marginal productivity rate of real capital—simply adds more complexity to the issue.

For Wicksell, it was only necessary to "know the yield of the various objects at a particular moment, but nothing at all about the value of the goods themselves, which it is necessary to know to calculate the rate of interest" (Wicksell 1934: 149). He further defined capital as "saved-up labor and saved-up land" and interest as "the difference between the marginal productivity of saved-up labor and land and of current labor and land" (Ibid.: 154).

Irving Fisher's approach to the inclusion of time is simpler because it is not involved with the idea of time in production. The Austrian emphasis on the technical superiority of presently available goods as providing a separate reason for a positive rate of interest became an issue of controversy. Fisher argued that a positive rate of interest could not arise from this reason alone. He distinguished between a point in time and a period of time, and seems to have cut through many definitional perplexities surrounding what should and should not be considered as capital: "A stock of wealth existing at an instant of time is called capital. A flow of services through a period of time is called income" (Fisher 1906: 52). Capital is thus anything and everything that produces income.

To clarify the position concerning the physical nature of capital and the value of capital-goods, Fisher identified four basic income-capital ratios:

- Physical productivity: quantity of services per unit of time per quantity of capital
- Value productivity: value of services per unit of time per quantity of capital
- Physical return: quantity of services per unit of time per value of capital
- Value return: value of services per unit of time per value of capital (Ibid.: 186).

Of these, only the fourth is of interest as having a specific meaning in the study of capital. A fundamental principle is derived here: that the value of capital at any distant date is derived from the value of

the future income which that income is expected to yield. Because we can't know future events, we fix our present valuations on the basis of what we expect future to be. It seems, though, that the idea of present worth is of fundamental importance in the theory of value and prices. What it amounts to is "that the value of any article of wealth or property is dependent alone on the future, not the past" (Ibid.: 188).

According to Fisher, the definition of capital becomes a trivial matter once the distinction between stocks and flows is made. Or, as Kregel put it: "Since present values turn future flows into present stocks, the determination of present values gives not only a theory of price, but an indisputable method of determining capital value" (Kregel 1976: 43). Fisher was well aware that there are uncertainties about future values. To avoid the problems associated with uncertainty he assumed that "expected income is foreknown with certainty and the rate of interest is foreknown" (Fisher 1906: 202).

While Fisher undoubtedly took the problem of capital a step forward and clarified some of the associated issues, there are nevertheless many other problems that have to be made clear before we start employing capital in practice; namely, in banking. To do otherwise would simply cause new problems. Having in mind that capital is, in most cases, "embodied labor," I will endeavor to show that capital is a collective concept and thus requires cooperation with other factors of production.

Fisher, following Böhm-Bawerk, viewed the rate of interest as a link between the present and future utility of a good and maintained that present goods have a higher utility than future goods. In reference to the Austrian emphasis on the technical superiority of presently available goods, his argument was that the greater productivity of roundabout methods of production explained only the willingness of borrowers to pay a premium. He suggested that the nature of interest and its determination could best be understood if interest is conceived in relation to income rather than capital because "capital wealth is merely the means to the end called income, while capital value is merely the capitalization of expected income" (Ibid.: 61). Thus, according to Rima:

> The fact that capital is productive will not, in and of itself, cause people to prefer income today in preference to income tomorrow. But the productivity of capital will affect the relative abundance of present and future goods,

and therefore the willingness of people to pay a premium for income available today instead of the future. (Rima 1996: 301–2)

Fisher, she says, sees "the interest rate as being determined by the actions of people to alter the time flow of their income receipts."

Fisher took the view that impatience for income (or time preference) depends on the size of income, its time distribution, and the probability of its occurring at the expected times and places:

Impatience can be changed, or approximated, by borrowing or lending at interest (what Fisher calls the first approximation) as well as by investing in a physical process of production with a positive return (the second approximation). The final set of decisions that are taken by individuals will determine the supply and demand position in the money market and in the investment market which will determine both the rate of interest and the rate of return to investment. Since both will represent the relative price of present to future goods this must be, in equilibrium, equal to the rate of time preference. (Kregel 1976: 45)

It is fair to say that Wicksell and the Americans John Bates Clark (1847–1938) and Irving Fisher were among those who made their most substantive contributions in the area of distribution theory and the related fields of production theory and the theory of capital and interest.

No study of capital theory, however brief, would be complete without drawing the reader's attention to Professor Harcourt's ruminations on the subject (Harcourt 1969 and 1976), or to Karl Marx's (1818–83) treatment of capital, which has to be studied in a framework different from that of any other economists. Marx analyzes the issue of capital in the light of the theory of value, which is thought by Professor Desai to be:

… at the heart of every major school of economic thought. The notion of value is in itself philosophical, but a logically satisfactory value theory is crucial not only for tackling theoretical problems but for answering practical and operational questions as well… In modern (neoclassical) economic theory, the role of value theory is to provide a theory of relative prices. (Desai 1979: 9)

Marx's labor theory of value is not a theory of relative prices or resource allocation; it is a much broader concept which embraces social relationships as well.

Joan Robinson links the attitudes of Marx, Marshall and Keynes to the capitalist system in this way:

> Marx represents revolutionary socialism, Marshall the complacent defence of capitalism and Keynes the disillusioned defence of capitalism. Marx seeks to understand the system in order to hasten its overthrow. Marshall seeks to make it acceptable by showing it in an agreeable light. Keynes seeks to find out what has gone wrong with it in order to devise means to save it from destroying itself... Economic theory, in its scientific aspect, is concerned with showing how a particular set of rules of the game operates, but in doing so, it cannot help but make them appear in a favorable or an unfavorable light to the people who are playing the game. (Robinson 1979: 61–2)

Marx's main concern is that the rules are unfavorable to the workers through creating surplus value which labor does not share.

The role of value theory in classical and neoclassical economics is to provide an explanation of the structure of observed prices and quantities. For Marx, value theory was a key to explaining the nature of capitalist society. The value of labor power for Marx is decided independently of and prior to the specific job that the laborer might be engaged upon (Marx 1887 1: 83). The distinction between use value and exchange value is a very important one, although hardly novel. Marx further made an important distinction between "product" and "commodity;" however, economists both before and since have continued to use these terms interchangeably.

To Marx, all economies produce products; only in capitalism do products take the form of commodities. Commodities are produced mainly, if not entirely, for exchange. Products, like commodities, have use value, but commodities need an exchange value. In capitalism, all production is for exchange (Ibid.: 16).

The circulation of commodities is the starting point of capital. If we abstract from the material substance of the circulation of commodities—that is, from the exchange of the various use-values—and consider only the economic forms produced by this process of circulation, Marx says, we find the final result to be money.

This final product of the circulation of commodities is of the first form from which capital appears.

As a matter of history, capital (as opposed to landed property), Marx believed, invariably takes the form of money at first; it appears as moneyed wealth, as the capital of the merchant and of the usurer. But we have no need to refer to the origin of capital in order to discover that money is the first form in which capital appears.

The first distinction made by Marx was between money that is money only, and money that is capital, the difference being nothing more than a difference in their form of circulation. The simplest form of circulation of commodities according to Marx is C–M–C, the transformation of commodities (C) into money (M), and the exchange of the money back again into commodities; or selling in order to buy. The capitalist appears in the market with money (M), buys raw materials, rents machines and buys labor power (C) and sells the final product at a profit (M'); M'>M. Indeed, there would be no sense in having a commodity form if at the end of the production process profit was not made by the capitalists. We have, then, according to Marx, the cycle: M–C–M'. But alongside this, we find another specifically different form: M–C–M—the transformation of the money into commodities, and the exchange of commodities back into money; or buying in order to sell. Money that circulates in the latter manner is thereby transformed into commodities, becomes capital and is already potentially capital.

In these processes, the clue for Marx was in the initial stage where the capitalists buy commodities (that is, factors of production) with money. There are three components here: raw materials, labor power, and machinery. Marx believed that machines do not create surplus value, as explained by Professor Desai:

> Marx does not deny that machines are productive; that is, they have value. The value produced by a machine during the production process is equated to the rental paid by the capitalist for the use of the machine. Whether the capitalist owns the machine or rents, it is irrelevant here for the economic calculation. The point is that the value produced by the machine—the value transferred from the machine to the final product, as Marx would put it—is exactly matched by the flow price of the machine. This means that the cost of machine and the cost of raw materials are already included in the initial sum of

> money advanced, M. It is the third element purchased with
> M—labor power—which is then left as the only possible
> source of surplus value over and above that incorporated
> in the purchase price. (Desai 1979: 23–4)

Labor creates surplus value by virtue of the fact that the unequal
relation operating in the market for labor creates a gap between
use value and exchange value. Marx firmly believed that exchange
couldn't create surplus value and neither was exploitation possible at
that level. If, as Marx asserted, exchange cannot create surplus value,
exploitation can only be explained in use-value terms.

To make the point clearer, we need to know how the above
process works. In the Marxian economic framework, the capitalist
comes into the market with a sum-of-money (M) but it is only when
he advances it by buying the means of production and raw material
(the materials of production, MP) as well as labor power (L) that
the sum-of-money function takes the form of capital. The labor
power potentially available for sale will be a product when bought
as unproductive labor, but will take the form of a commodity when
the laborer sells it for hire to a capitalist. When the capitalist holds
labor power for raw material and machines, these commodities take
the form of commodity capital. Hence, the capitalist converts these
various inputs (that is, money capital) into commodity capital (C).
When these inputs are put into the production process, they take the
form of productive capital (P). Here then is half of a cycle:

$$
M \rightarrow C \begin{cases} & L \\ & < \\ & MP \end{cases} = P
$$

Special care has to be taken about the units in which various
things are measured. The sum of money is, of course, denoted in
the numeraire (gold in Marx's day but fiat money today). L and
MP are, in their physical form, labor power as so many persons
with their capacity for work (12 hours in Marx's day, eight hours in
developed countries today). MP—the material for production—is a
heterogeneous collection of things: raw materials, power, machinery,
and buildings. These heterogeneous things are then translated in
terms of their labor content into C. Thus C is a homogeneous labor
value aggregate of heterogeneous physical things; or, as Professor
Desai puts it: "Heterogeneity of capital, which has been at the centre
of controversy in debates in modern economics, is present in P and

initially in the exchange process. Its conversion into a value aggregate, C, or its equivalent money form, M, gets over the heterogeneity problem" (Desai 1979: 29).

In his remarkable approach to simplify Marxian economics, Desai continues:

> The production process then converts inputs into another product—its output. The output, whatever its physical form, can be measured in terms of labor content. While it is held by the capitalist who produced it, the output takes the form of commodity capital C′. The transformation of inputs P (L and MP) into an output (call it Q) is the production function—the production of use values. Output and inputs are physically heterogeneous. They can be made commensurable in two ways. The first is to measure both in terms of labor content—hence the measures C and C′. Equally, one can measure the money equivalent of inputs—(M by definition) and total revenue from selling output—(M′). When the capitalist sells Q he converts commodity capital C′ back into money capital M′. The money he had advanced returns to the capitalist, but with an additional profit. The other half-cycle is therefore:

$$P \rightarrow Q \rightarrow C' \rightarrow M'$$

> Now in general $M' > M$ and $C' > C$. (Ibid.: 29–30)

There are three ways of looking at the value and the physical processes of production following Marx's discussion. These are called the three circuits of capital—the commodity capital (C′-C′) circuit, the productive capital (P-P) circuit and the money capital (m-M′) circuit. (For further details, see Desai 1979: 32–8.)

The key points of Marx's theory have been summed up quite elegantly by Professor Rima along the following lines:

> Marx's basic concern is to undermine the perception that abstinence by capitalists is the source of capital accumulation and that the profits they earn are their just return. To refute this classical view, he begins by noting that under conditions of simple reproduction money...should (logically in primitive as well as advanced economies) serve only as a medium to circulate commodities. Being

concerned with the degree of labor exploitation, he focuses on the rate of surplus value, which he designates as s'. This is the ratio between surplus value (s) and the variable capital outlays (v) the capitalist makes. Thus,

$$\text{Rate of surplus value} = s' = s/v$$

In volume one of *Capital*, Marx makes it clear that "the rate of surplus value tends to become equalized among sectors of the economy because of labor's tendency to move from low-wage areas to high-wage areas while producers use productive techniques as efficient as those used by their competitors."

In volume three of *Capital* which was edited by Engels and published after Marx's death, Marx maintains that rates of profit, rather than rate of surplus value, tend toward equality... The rate of profit is the ratio of surplus value to total capital outlay. Thus,

$$\text{Rate of profit} = \pi' = s/(c + v)$$

where c stands for constant capital and v for variable capital. The argument that rates of profit (rather than rates of surplus value) tend to become equalized is a more realistic perspective: business owners are not interested in profit per unit of labor cost, but in profit per unit of total invested capital (Rima 1967: 220–4).

Marx argued that the market "transforms" values into prices that differ individually from labor-determined values of commodities. "Some capitalists will... sell above value and enjoy more surplus value, and others will sell below value and enjoy less surplus value" (Ibid.) He further define organic composition of capital as:

$$\text{Organic composition of capital } K = c/(c + v)$$

Thus, the higher the ratio of (c)—constant capital—to (c + v)—total capital—the greater is the industry's capital intensity.

Whether Marx's prediction about capitalist societies is accurate remains to be seen. In any event, it would be unfair to him not to acknowledge his contribution to our understanding of capitalism,

which Professor Morishima summarizes this way: "Indeed, Marx's theory of reproduction and Walras' theory of capital accumulation should be honored together as the parents of the modern dynamic theory of general economic equilibrium" (Morishima 1973: 2).

Students of economics are asked to visualize an environment in which such actions take place without asking them to incorporate other subjects such as business law, accounting, business organization and the like within one single framework called "the firm." Firms do not exist in a vacuum; they are legal entities. They have to follow certain laws and regulations before they are given birth. Now, as in the past, the limited view presented to students leads to confusion and misunderstanding.

THE LEGALITIES OF MONEY AND CAPITAL

The conventional analysis of the production function correctly embodies the idea that raw cotton is transformed into cotton, steel into automobiles, petroleum into plastics, and so on. But this takes no account of where and how these transformations take place. In treating "the theory of the firm," the standard textbooks take it for granted that there is a place and institution called "the firm" which makes these transformations take place.

Students of economics are traditionally, and quite properly, exposed to different subjects related to economics, such as accounting, business law, management, and organization. However, they seldom get a chance to appreciate their direct relevance to a better understanding of economics because, for the most part, economic textbooks are mainly concerned with the technicalities of economic theory. I venture to say that no single microeconomic 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 behavior of all economic agents. The absence from the standard economic literature of a clear account of a firm in its legal environment is remarkable. Another related blind spot is the defining boundary between money (potential capital, M) and actual capital (K), a distinction which, in turn, depends 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 high-value inventions. The necessity, even usefulness, of interest has, on the other hand, always been questionable. Taking for granted that

interest is a form of return on money, as we have seen, Böhm-Bawerk introduced three factors of production, put them together, and showed how they turn a profit and determine interest. In this analysis, capital has been willfully misplaced in order to show the necessity and reality of interest. In fact, the analysis shows only that capital is productive of profit—money, qua money, is not productive. Also, many economists have argued that, in the end, profit and interest amount to the same thing as, over time, the rate of profit would equal the rate of interest. To the contrary, there is ample historical evidence that for the G7 countries the real rate of interest and the real rate of profits over a long period of time have never been the same.

Some economists hold firmly to the view that time preference alone is sufficient to prove the necessity of interest. Assuming this to be true, interest would not exist in the evenly rotating economy consisting of overlapping generations (see Schumpeter 1994). Furthermore, while the Islamic tradition recognizes the concept of time preference, it rejects interest on the grounds that the two are 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. The rate of profit is pivotal in the Islamic economic system and, more importantly, in enabling equilibrium in the labor, capital, and commodity markets to be simultaneously determined.

Keynes drew a clear distinction between interest as a reward for lending money and profit, which was the reward or return that the businessperson hoped to get. This distinction between money and capital is a necessary foundation for a sound and healthy economy. Serious doubts have recently been raised about the necessity of interest to the proper functioning of an economic system, which is a strong argument for the enduring relevance of its prohibition in Islam.

As outlined earlier, treating the monetary sector independently of the real sector seems to me to lead to Keynes' "objectionable features of capitalism." Business cycles are as old as capitalism. Why then should we not be seeking a way of avoiding these cycles? In a capitalist system centered 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 more 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, important

questions remain unanswered. One of those is the distinction between money and capital.

Joan Robinson at least raised the question (see Robinson 1979). But when she 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, 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.

By asking the question: "How can finance be treated as a factor of production?" Robinson came close to solving the enduring question but failed to push the discussion further. 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."

Keynes said that capital in existence at any moment may be treated simply as "part of the environment in which labor works" (Keynes 1936: 214). This is an important pointer, which, combined and elaborated with some terms borrowed from related disciplines, brings us very close to an answer to the question.

While the financial system is undoubtedly part of the general functioning of the system, the monetary sector in the conventional system is independent of the real sector. The lawfulness in the conventional system of money loaned on interest exemplifies (as it also exalts) individualistic behavior 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 takes responsibility for the outcome of the "capital" invested.

Interest being the reward to speculative demand for money does not necessarily rule out the possibility of money borrowed at interest from being used for investment. In such cases, a surcharge is levied on the "capital" used as a factor of production, whereas in PLS, no such surcharge burdens the enterprise.

As Robinson put it: "a new business sets out with a sum of money whether owned by the proprietors or borrowed at interest" (Robinson 1979: 116). But she is not clear as to the process by which "a sum of money" is put in business. In an earlier study (Robinson 1953: xxi: 81–106), she had 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." 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."

MONEY AND CAPITAL RECONSIDERED

Money, capital, interest and profits 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 a community wants. These entities are sometimes related to real entities—that is, human-beings—and other times to socially produced entities. Our concern here is with the firm as an institution. The goal of a firm (or, more precisely, of stockholders) is to earn profits. Every essential component of a firm (that is, the factors of production) is expected to receive a share of those earnings. In capitalism, labor, capital and land receive wages, profits and rent, respectively. These entitlements are made possible only within the framework of the institution of the firm. Nobody owning any amount of money can expect to earn anything until they have entered into the legal process of establishing a firm. The loan, a social contract, is another institution for which two parties are needed. This contract, although typically entered into for a period, is not of the kind from which the lender (or bond-holder) should expect any share of its working, even if the loan is used in the institution of a firm. The only way in which a bond-holder can claim a share of the firm's profits is by becoming a stockholder. This distinction is central to our discussion because the failure to distinguish between these two institutions has been the source of much confusion in the economic literature and has rarely been accorded sufficient attention.

Providing money as a loan to a firm is not the same as supplying capital. Although bond-holders have no rights to profits, they do have the right to claim the principal plus interest charges, even in

the event of the firm's bankruptcy, which serves to preserve some balance between rights and responsibilities. There is a balance too in the rights of the stockholders. They are the owners of the firm, the real risk-takers, and all profits earned are theirs. The preservation of the balance between the respective rights and responsibilities of bond-holders and stockholders is conventionally laid down in business laws. Stocks and bonds are distinct legal documents with fundamentally different impacts on economic activity. Again, the key to distinguish money from capital is to bring the "institution" of a firm into the analysis.

It should be quite clear by this stage that money is not capital. To become so, money has to undergo a legal process and it must inevitably assume a degree of risk in order to be eligible for profits. This legal process changes the nature of money, making it part of an institution that employs other factors to cooperate with capital to generate earnings or profit. No return to money and capital is legitimate without this process.

Capital cannot of itself generate profit; it must be incorporated with other factors of production. The same is true with land and/or labor. 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 to be, profit is to be shared with the other factors cooperating with capital. Such interdependencies, however essential and indispensable, can make it difficult to produce a well-defined general equilibrium analysis. Such an analysis, however, is not impossible.

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

A firm is by definition a legal entity which can transform inputs into output. Its status as a legal entity precedes its technicality. However, it is rare to find the legal aspects of how and when money transforms

into capital discussed by Western economists, even when this is directly related to the topic in hand.[1] Had there been satisfactory discussion of the firm, Professor Robinson might not have despaired of the task of answering the question as to the ''meaning'' of capital rather than its measurement.

Our approach here is to consider the firm as a compound of the wills and wishes of its shareholders and enabled by laws and regulations. These give it a distinct legal personality which affects and is affected by 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, though, is how this transformation happens and how it functions.

With all the different characteristics that can be attributed to money (M) and capital (K), their impact on the economy will also be different. Too much money poured into the economy produces problems which are hard, if not impossible, to resolve. Too much capital, however, produces no such problems and actually directly enhances the pace of economic growth. Injecting too much money into the economy is easy to do and very unwise, while producing capital is hard. In order to transform money—which is a stock concept—into capital—which is a flow concept—we need a legal environment that encourages investment. In addition to skilled labor and management, the right attitude toward risk and return is also necessary. There are countless instances of economies around the world in which money has been injected into the system with minimal impact on job creation and the growth rate. Good examples can be found in most countries in the OPEC cartel, where the countries have sold their wealth of oil and mistakenly taken the resulting revenue as money income. They have rarely been successful in transforming the price of oil into capital and this has resulted in economic problems similar to those encountered in other developing countries. I believe that the higher the rate of transformation of the stock of money into the flow of capital, the higher will be the rate of economic growth and social welfare. Underdeveloped countries can be distinguished from developed countries by their respective transformation rates.

It is the primary goal of this book to show how the process of transformation from money (M) into capital (K) can take place in order to bring about the highest economic growth while preventing virtual wealth and artificial risk. This can best be accomplished by integrating money into the capital theory. The two symptoms (virtual wealth and artificial risk) are clearly apparent in the current global crisis. The third symptom—greed—can be brought under control by the cooperative economic system being advocated here.

A close look at the differences that exist between money and capital shows that they, in fact, usually spring from ideas put forward by the New Institutional economists. 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 $=$ liquidity; V $=$ velocity; MC $=$ marginal cost; d $=$ depreciation; R $=$ return; $\sigma =$ risk; r $=$ rate of interest; and $\rho =$ rate of profit.

Two observations follow from this: (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:

$$M ♀ L \rightarrow K$$

where ♀ stands for "legal combination" and L for labor.

In other words, as soon as a sum of money (potential capital, M) is legally combined with a factor of production (most likely labor, 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: $MV = Y$. However, 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.

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

The term "speculation" is used here to mean any action which, for the benefit of the 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. Speculation harms public confidence because of the nature of the speculators' expectations about the future course of the rate of interest. Speculators normally earn money income by attempting to "buy cheap and sell dear." "Speculation" as it is used here follows the way Keynes used it in his *General Theory*. To be specific, almost all transactions in stock markets involving the exchange of stocks whose prices are market-based are speculation. The exception to this 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 as a result of bubbles. The real value of stocks is the real value of the assets of the stock-issuing firm. By this reckoning, ordinary stock markets that are secondary markets are, as I understand it, money markets; the primary markets, devoid of bubbles arising from 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 secondary markets, transactions are reduced, in fact, to $M(1)-C-M(2)$, where M is money and C is commodity (here, stock), and $M(2) > M(1)$. In this process, stock plays the role of collateral in the exchange of money for money because the two parties do not know each other. The transaction is of a lending–borrowing nature, if whereby the holder of C needs

money and the buyer of C is there to lend money in exchange for stock. This process takes place within a short period. The lender and the 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 short period, 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 centers on the fact that rates of interest cause speculation. In my argument, the rate of interest is both a necessary and sufficient condition for speculation. Given that $\Delta K = I$, primary (stock) markets operate in effect like highly developed money markets in that the time between transactions on the same stock is so short that it does not allow any change in the stock of capital, or assets, to take place.

The word "capital" used in the textbooks implies a long-run 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.[2] The naïve distinction in which the capital market is distinguished from the money market according to the period of the loan is one of the many sources of confusion. It is very hard to pinpoint when and how such misunderstandings originated. In the money market, time is too short to allow any addition to be made to the capital or assets of a firm. Although speculation, literally, can be reduced to an exchange of money for money, it must not be confused with trade for reasons which are beyond the scope of our current discussion.

What should worry us most about speculation is the instability it introduces into the economic system. As Ackley points out, it has been satisfactorily demonstrated "that speculation—if mistaken—tends ultimately to be self-correcting in any commodity market; but what Keynes further recognized was that the self-correcting mechanism is either absent or very slow and painful in the case of the interest rate" (Ackley 1969: 177). The crux of the problem lies in the fact that if in the process of speculation it is not mistaken, the market will not tend to be self-correcting. 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 will fall toward zero, except to the extent that the speculative demand for money cushions its fall.

This combined with a relation, attributed to Wicksell, to which we will soon return, means in many instances there is a savings gap; that is, S>I, which in turn means 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 and does not contribute any extra value to the assets or capital of the issuing firm. The difference in value is nothing but a bubble, which has frequently burst in the past and no doubt will again.

How important is this 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 the development of interest (rate). A digression is necessary here to clarify what I understand to be covered by the prohibition of *Riba*. I am convinced that the prohibition 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." Besides, it is not only professional speculators who engage in transactions on the stock market: ordinary people also do so. They have a right to be fully informed about what they are really buying and to be protected from price bubbles. Prices of stocks supplied in the primary markets must be kept as close as possible to their real values. There is ample evidence to show 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 been recommended by location theorists on efficiency grounds.[3]

A sound, closely supervised stock market would prevent a money market from developing from the conventional stock market. As a result, a capital market, as defined above, would take its place.

Real investment expenditures have their attractions. As we saw earlier, statistics show that the rate of profit for G7 countries, individually and collectively, was much higher than the long-run rate of interest for 29 consecutive years.[4] The internal rate of return (IRR), the essential criterion for selecting capital investment, would undoubtedly have been even much higher than the long-run 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 causes real interest rates to rise, the cost of which is passed on to consumers. By "profits" is meant the gross trading profits of privately owned industrial and commercial companies. That is, in capitalism, profits will be 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.[5] In an Islamic setting, all interest charges will vanish. We retain the capitalistic 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 which the firm sets out to earn is determined by the amount of investment that it plans to undertake. Unlike the position held in neoclassical theory—that the firm is willing and able to finance any investment project by borrowing—there would be no borrowing on interest in our model. While we rule out some neoclassical assumptions, we hold on to others but they do not carry the same meaning. Certainty is a case in point. It is well understood that investment expenditure projects carry inherent 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 results from speculation in stock markets. Rather, we need to reduce any such artificial risk to the minimum. Then, it is the rate of profit (which has its own distribution) whose mathematical expectation plays the central role in investment decision-making.

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

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

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

Another common confusion is to use the term "capitalist" for the moneylender, who plays no part in the establishment of the firm, by which alone money is transformed into capital. By taking the risk of investment, an entrepreneur becomes eligible to earn profits; the moneylender does not. The existence of profit does not, on any objective ground, justify the payment of interest. There are no objective reasons for clinging on to the institution of interest; rather, as we have argued, interest and speculation are 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.

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 labeling 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 Committee's report, the words "supply of money" are placed in quotation marks followed by such phrases such as "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 R. S. Sayers, one of the Committee members, raised the issue whether money can, in fact, be defined: "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). Gail Makinen did not agree with the problem posed, but that does not mean that the problem has been dealt with satisfactorily in some other way (Makinen 1977: 267–81).

If money is indefinable or includes a broad category of "assets," it may either be impossible to discuss the monetary policy actions of central banks, or monetary policy tools for accomplishing stabilization objectives which center on commercial banks may be inadequate and require supplementation. If money cannot 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 merely on the supply of money, however that is defined. The abolition of interest and of its derivative, speculation, closes that 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 potential 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 the capacity of engines properly placed in cars. Millions of barrels of gas might be available and yet people wait in long lines to be moved. Those lines of people cannot be reduced until the engines that use the gasoline are supplied. In the same way, it is the institution of the firm that is able to transform money into actual capital. This leads us to a 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—on money or stocks—what goes into the speculation whirlpool harms society unless diverted into firms using other factors of production cooperating 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 will be the rate of economic growth; and the higher the speed of this transformation, the greater the ability to absorb unemployed labor. This transformation obviously takes time and effort. It is in this sense 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 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 the time allowed is not 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. Closing the gap between the stock of money paid as the remuneration of factors of production and actual capital through the imposition of high taxes on so-called capital gains is sometimes recommended. Whether such recommendations would guarantee full employment is dubious. In an Islamic framework, the abolition of interest and 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 the case. 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 in a barter system) but not without capital. This is not to belittle the importance of money in a money-based economic system. Money has the potential to become capital. In a money market, time, however short, produces the rate of interest; in a capital market it produces a rate of profit, or internal rate of return (IRR), which is separate from the rate of interest.

The amount of capital or assets is much easier for authorities to measure than the stock of money, as was made clear by the Radcliffe Report. Firms are required by law to provide tax authorities with their annual financial statements. The amount of capital, which in our discussion is closely tied with fixed assets, net of depreciation, can easily be measured using these statements. The market price of stocks centers on the going rate of interest, as well as expectations about the future, and it sets a boundary around which interest rates would fluctuate. This process can go on until bubbles burst and for as long as the issuing firms are in existence.

By abolishing interest and integrating money into capital theory, an interdependent market system will develop, in which all the most important specifications will normally play a part in influencing economic activity. The system would, admittedly, be much more complicated that any of its predecessors. Nevertheless, I believe that it would undoubtedly reward the effort with higher economic growth

and less (if any) instability. It would no doubt produce new problems, but problems are always there to be solved.

EXTENDED MODEL

The previous discussion attempted to extend the conventional theory of the firm. In my view, it is not possible to theorize a purely technical relation between output and capital while omitting the legal dimension. In this section, we put the legal aspect of the firm back in 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 the firm. Balance sheets are identities, which always and everywhere bring about equality between capital (K) and debts (D) on the one hand, and assets (A) on the other; that is, $A \equiv K + D$. It is understood that the firm's assets are always greater in value than capital; or, given that $D > 0$, it follows that $A > K$. Schematically:

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                    Balance Sheet
       ==============================
           Assets              Liabilities
       -----------------    --------------------------
          Fixed assets           capital
          Variable assets        debts
       ------------------------------------------------------
       Total Assets (A) ≡ Capital (K) + Debts (D)
       ==================================
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Managers of firms are judged on the record of their actions based on their responsibilities towards the shareholders. They are accountable for their acts, as they have been legally delegated to run the business.

Their responsibility to the shareholders is not restricted to earning an ever-increasing rate of profit based on the commonly used meaning of "capital." "Capital" in this sense mostly refers to a set of machines. Using rate of profit (the ratio of profit to capital) to evaluate management performance, though a useful measure in its own right, can be misleading for two reasons: (a) a set of machines with no other facilities cannot provide an environment suitable for labor to work; (b) 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. The reason for is that management has all the assets of the firm under its control, making the new ratio more

compatible with workplace realities. This argument emphasizes that the responsibilities of management go far beyond ensuring returns to shareholders. Our extended model takes account of the value, arrangements and types of the assets which form the environment in which labor works, rather than just capital.

In an Islamic framework where a PLS contract is used, as soon as the contract is signed with an Islamic bank, both the capital and asset values of the firm increase 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 equipment constitute only a fraction of a firm's total assets. To make economic theories more consonant with real life, economists have to make it clear what they mean by the "capital" of a firm. Does it mean the liability of the firm (a legal entity) to its owners (real entities) or the market value of the firm? What will happen to the rest of the "capital" defined as the difference between total assets and debts? Do these discrepancies contribute to the production of a commodity? Are they redundant? If so, what is the logic behind purchasing them in the first place?

Answers to such questions show that items other than those related to the initial capital put into a firm contribute to its output; however, 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 labor.

This formulation encompasses some properties peculiar to itself, and different from the conventional production function in that:

    a.   All asset items such as machinery, land, buildings, warehouses, and so on, are shown as one inclusive item with their own productivities being accounted in the process of production.

    b.   Integration of all asset items means that their contributions to producing output, contrary to the usual method, are dependent on each other.

    c.   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 can make further use of accounting terms and their treatment of capital and assets in the balance sheet and redefine investment (I) as any positive change in the value of net fixed assets (A) (hereafter, just "assets" unless otherwise specified). That is:

$$I = \Delta A$$

In this new formulation, the contribution of each factor of production is measured in conjunction with others, and is dependent upon them. This brings us closer to real life, in which assets without labor have no meaning and vice versa. This necessitates cooperation between asset owners and labor. The resulting synergy benefits both shareholders and labor. In a simplified case, labor has a dual character; that is, it supplies labor to the firm in order to produce goods and, at the same time, demands goods produced in the economy. This makes for a mutual dependency 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 close to real life and the underlying assumptions are consonant with the teachings of Islam.

The traditional treatment that assumes that the interests of labor are independent of those of shareholders, and so pays labor its value of marginal product, not only increases the cost of production but also makes labor indifferent to the fate of the firm for which it works. This might have been one reason why economists were inclined to adopt the Japanese way of labor remuneration, however alien to American capitalism, as Professor Weitzman has pointed out. (Weitzman 1984). The subtitle of Weitzman's book is instructive: "Conquering Stagflation" 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, 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 labor to construct such a map, on the sole basis of technicalities of the production function, my proposal shows that:

a.   Both the legalities and the technicalities of the production function combined will produce iso-quants; and

b.   The working environment is provided for by the value, arrangement and the types of assets in a legally established firm. The complementarity of labor and assets becomes self-evident, rather than their being mere substitutes, as they are in the traditional treatment.

Aggregation is another unsettled issue in the case of heterogeneous capital. There are two reasons for this. 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 substituting "assets" for "capital." In other words, we try to classify the firms rather than the machines. The number of firms and the types of products they produce are manageable, as opposed to the number of machines. The legality of firms, combined with their technicalities, will help us here for classification purposes. We put firms that produce similar products into one category. In this way, we reduce numerous types of heterogeneous capital to a manageable number of products. For example, if we let $Q(1)$ stand for, say, televisions, $Q(2)$ for automobiles, $Q(3)$ for furniture, $Q(4)$ for textiles, and so on, disregarding the range of goods produced in each category, we can write them as a sequence:

$$Q(1) = f[A(1),\ L(1)]$$
$$Q(2) = f[A(2),\ L(2)]$$
$$\dots\dots\dots\dots\dots\dots\dots$$
$$Q(n) = f[A(n),\ L(n)]$$

Using this method, millions of heterogeneous types of capital can be reduced to, say, thousands of firms producing similar products. This usually happens in economic analysis, moving from the level of the individual firm to the industry level, but it carries with it the vague concept of capital at the level of the firm. The method suggested here has another advantage in that, rather than considering the individual labor force in each firm, it can be based on their specialties within many firms producing like products. Aggregation in this case will become easier for both the firms and the workforce. There may be

thousands of unused machines and millions of unemployed workers; the only way to put them to work is to provide a legally suitable environment, with, of course, reasonable economic incentives. Money, similarly, needs a legal environment combined with profit incentive in order to be converted into capital.

A useful analogy here is with the work of demographers, who, rather than working with entire populations, break down those populations into classifications by gender, age group, level of education, and so on, which greatly reduces the complexities involved.

Working with aggregate data in the conventional way requires collecting information to estimate the capital stock of the country. Since the tax authorities have all the necessary data from the firms' balance sheets and profit-and-loss statements, they can provide the actual value of assets reported in these formal statements with a high degree of confidence. Although accounting methods adopted by different firms vary, some restricted criteria are available to reduce the variations. Accounting is one form of institution around which many economic decisions take place. Our solution incorporates aspects of this discipline into practical economic analysis. The importance of this area of human knowledge cannot be overstated. There is much more that can be learnt from the accounting profession that will help us understand economic life. The suggestions made here may go some way towards bridging the long-standing gap in terminologies between economics and accounting.

IMPLICATIONS OF THE MODEL

The following section sets out the main implications of the argument outlined above. The list is neither comprehensive nor ordered by priority or importance.

- Any positive change in the value of a firm's assets—defined as investment (as opposed to its market value)—will provide a realistic measure to properly evaluate shares in an Islamic stock market. Given accurately reported financial statements, this measure prevents bubbles, which result from speculative activities. In conformity with Islamic teachings, this gives buyers complete access to all available information.
- Unlike capitalism, in which boosting the economy starts with changing the money supply, (ΔM), in order to stimulate output, $(\Delta Q > 0)$, which proves the exogeneity of money, the

endogeneity of money in the Islamic system reverses the path;
that is:

$$\Delta M \longrightarrow \Delta Q \text{ (via change in interest rate)} :$$

Capitalist system

$$\Delta Q \longrightarrow \Delta M \text{ (via M } \female L \longrightarrow \text{ actual capital)} :$$

Islamic system

- Endogeneity of money in Islam makes it neutral, as opposed to
  the position in capitalism.
- The abolition of interest (*Riba*)—and with it both the money
  market and speculation—allows us to concentrate on three
  markets (labor, capital (the firm's assets), and commodity),
  for which a general equilibrium framework can be con-
  structed.
- Prohibition of *Riba* transforms Islamic banks from monetary
  institutions to financial institutions. Naturally, monetary policy
  tools have limited, or no, application in this setting. The finan-
  cial sector, therefore, becomes an integral part of the economic
  system.
- Comparing the internal rate of return (IRR) of different projects
  makes the parameters of the system endogenous.
- The importance of these arguments lies in the fact that, in an
  Islamic state, as soon as the need to hire unemployed labor
  arises, this can most likely be achieved by printing money and
  transforming it into "assets" to be used in conjunction with
  labor.
- It may come as a surprise to some scholars that, in an Islamic
  economy, the required reserve ratio (RRR) need not be kept,
  which means that it could safely come down to zero. This
  is a result of money being an endogenous variable; another
  fundamental difference from capitalism.
- Given that speculative demand for money is basically absent
  in an Islamic system, underlying every demand and supply
  in the real sector, there is 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 the 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.

- Labor works in an environment produced by the value, arrangement, and the type of assets in such a way that none are able to function without the others. In other words, since production is a collective action, income also has to be collective. This implies that the productivity of labor cannot be treated independently from that of capital (assets). This provides appropriate rights for the workforce that both supplies its labor and demands what it produces.

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

- Shifting the focus from the technicalities of production to its legality 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 the firm, it can also be extended to other social contracts, formal or informal, such as marriage, labor–employer, tenant–landlord, and so on. The better and more effective such legal social structures, the more advanced the society. 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 approach is applicable to Islamic and capitalistic systems alike. It not only puts labor and assets in their proper positions 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 also be. This implies a right for labor to share in the profits of the firm in which it works. This builds a stabilizing mechanism into the system, which guarantees sustained growth. This, in turn, makes the system counter-cyclical through its ability to simultaneously boost both aggregate demand and aggregate supply.

- Giving labor a stake in the profits maximizes productivity, reduces costs and therefore increases profits. This fits with the kind of system Islamic economics advocates, one in which cooperation plays a central role.

- The most important and immediate contribution of this new approach is to make money an endogenously determined variable by integrating it in capital theory. That is, the supply of money is determined on the basis of the availability of factors of production in the economy. Any advancement in technology, know-how, skill or new resources which necessitates an increase in money supply will signal the Islamic central bank to increase the money supply, which it can do without fear of inflation. It is not hard to demonstrate that this system would be counter-cyclical and stable through providing the most reliable criterion for the optimum money supply—the continuing dilemma for capitalism. It also provides a method to integrate the financial (rather than monetary) sector into the real sector. This is quite different from the way money is treated in the capitalist system, in which money supply is an exogenous variable and thus leads to the monetary sector being treated independently from the real sector. This, as I understand it, is the most vulnerable feature of capitalism, which can be deduced from interest-bearing loans in the money market and its interdependence with speculative demand for money.

NOTES

1 See, for the record, Drake 1982; Coghlan 1981; Tobin 1961; Gurley and Shaw 1990; and McKinnon 1973.
2 See, for example, Luckett 1984: 147 and 154.
3 See, for example, Greenhut 1974.
4 Ciocca and Nardozzi 1996: 167–8.
5 Wood 1975: 1–2.

Interest: Fact and Fiction

Why can our understanding of interest and capital not be separated from our understanding of capital?

Ingrid H. Rima

This chapter deals with some more of the myths surrounding the rate of interest. This may come as a surprise to mainstream theorists because interest is seen as being vital to the very survival of any economic system. Furthermore, mainstream economists reject the seventeenth-century conception of interest as a monetary, rather than a real, phenomenon and it is this mainstream thinking which has been passed down through successive generations to the present.

Involvement with interest is all-pervasive. It starts from microeconomics dealing with interpersonal consumption, production, market, general equilibrium, distribution of income and wealth, and extends to almost all aspects of macroeconomics—from investment to national income determination, both in static and dynamic equilibrium frameworks.

The aim of this chapter is to provide evidence to show that interest and its derivatives are destructive in an economic system and to remove some of the many misunderstandings that surround the subject.

In Chapter 3, we demonstrated that money stands in the same relation to interest as capital does to profits. Money when lent bears interest. In order for it to become eligible for profits, it has to undergo a change through the production function via a legally established firm. In the vast majority of cases, the borrowers of money do not intend to invest—that is, to change the legal attributes of money to capital—and it is, therefore, an absolute mistake to say that capital produces interest. It is, rather, money which produces interest. It is capital which produces profit. Again, a failure to distinguish between actual capital, as a factor which enters in the production function, and money, as potential capital, has been the source of many errors

over the last four centuries. We also demonstrated how the higher the rate of transforming money into capital, the more advanced an economy will be. Backward economies can be identified as those which have been unable to sufficiently convert money into actual capital. It is easy to print money and pump it into an economy; it is much harder to increase actual capital, because to do so requires great technical know-how and management. What is urgently needed, even by highly industrialized economies, is to make it easy to supply actual capital but hard to supply money. This can only be achieved through the abolition of interest and speculation on any durable commodity.

In Chapter 2, we highlighted Ingrid Rima's remarkable summary of the origins of the term "capital" and how in the well-intentioned hands of the likes of Turgot, Adam Smith and Böhm-Bawerk, it became inextricably bound up and confused with money and the phenomenon of interest. It is this confusion which has continued to plague successive generations ever since.

That chapter also illustrated (see Figure 2.3) the three factors used by Böhm-Bawerk to determine interest rates. At first glance, Böhm-Bawerk's analysis might give an inexperienced reader the impression that he has done it all as far as the rate of interest is concerned and that the rate of interest is indispensable in any conceivable economic system. It is advocated as if were a science that can be measured with absolute confidence in the outcome. But, as Samuelson reminds us, Lord Kelvin once said:

> ... when you can measure what you are speaking about, and express it in numbers, you know something about it; when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced to the stage of science... (Samuelson 1964: 721)

Far from solving the problem, Böhm-Bawerk became part of it in that he and many others presupposed that borrowers are necessarily industrialists and, further, that all national savings are directly channeled to investment (that is, $S \equiv I$—of which Keynes was so critical in *The General Theory*). As was shown earlier, interest is both a necessary and sufficient condition for speculation—an assertion that can hardly be refuted since it would amount to a denial of the money market. Speculative demand for money and the resulting money whirlpool

does not allow the above identity to hold. More importantly, being a monetary phenomenon, rate of interest is produced in the money market, not the capital market.

Böhm-Bawerk simply showed that capital was productive. But what does it have to do with "money"? He failed to make the legal distinction between money and capital and can be held responsible for promulgating the myth that interest is the reward to capital—a source of great confusion ever since.

For the last century and more, the Separation Theorem has been dominant in business structures, where management of a firm is separate from its ownership. Despite all futile endeavors to show that profit is the reward for risk-taking management, all profits basically belong to stock-holders. On this dichotomy, Professor Schumpeter has the following to say:

> Since many modern economists also include risk-bearing among entrepreneurial functions, it may be well to point out at once the objection to the idea. It should be obvious, as soon as we have realized that the entrepreneur's function is distinct from the capitalist's function, that an entrepreneur, when he employs his own capital in an unsuccessful enterprise, loses as a capitalist, not as an entrepreneur. It has been said that if he borrows at a fixed rate of interest, it is the entrepreneur who bears the risk. But this is a typical instance of a very common confusion of economic and legal aspects. If the borrowing entrepreneur has no means of his own, it is obviously the lending capitalist who stands to lose, his legal rights notwithstanding. If the borrowing entrepreneur has means by which to effect discharge of his debt, he too is a capitalist and in case of failure, the loss again falls upon Him as a capitalist, not as an entrepreneur. (Schumpeter 1994: 556 footnote)

It comes as a surprise to find Professor Samuelson not only subscribing to both Böhm-Bawerk and Irving Fisher's analysis but also in a position to provide a solution for the impossibility of a zero rate of interest. He says, among other things:

> In a world of perfect certainty, it is hard to see how people could ever save enough to bring the net productivity of capital all the way down to zero interest rate. As long as there is a single hilly road track left, it would pay at a zero rate of interest to make it level.

A zero rate of interest is a little like an ''absolute zero of temperature'' in physics. We can imagine getting close to it, but we can hardly imagine actually reaching the limiting state of a zero rate of interest.

... Our economic analysis suggests that thinking is superficial if it concludes that interest is solely a monetary phenomenon of predatory capitalism. (Samuelson 1964: 584–5)

To accept Professor Samuelson's assertions, we would have to deny both the money market out of which interest emerges and the fact that stock-holders receive interest, not profit. Further, we would have to question the place and function of the marginal efficiency of capital, MEC, in economics. Indeed, if these assertions are correct, what is the relevance of MEC? How are capital investment projects to be compared and chosen?

Keynes was critical of those who ''as a result of confusing the marginal efficiency of capital with the rate of interest... have got their conclusion exactly the other way round'' (Keynes 1936: 193). More importantly, he took a firm stand on the adverse effect of the rate of interest on investment, stating: ''The money-rate of interest, by setting the pace for all other commodity-rates of interest, holds back investment in the production of these other commodities without being capable of stimulating investment for the production of money, which by hypothesis cannot be produced'' (Ibid.: 235).

The history of economic thought has recorded countless distortions and errors, one of the most important of which is the notion of ''surplus value,'' which Proudhon used synonymously with ''capital interest'' and which seems to have confused Marx into thinking that interest was the reward to capital. As we noted earlier, Gesell had great respect for Proudhon and believed that the abolition of unearned income (the so-called surplus value, also called interest and economic rent) was to be the immediate aim of every socialist movement. He believed that the method generally proposed for the attainment of this aim was the nationalization or socialization of production in the shape of Communism and credited Proudhon with being the only socialist ''whose investigations into the nature of capital point to the possibility of another solution of the problem'' (Gesell 1934: 3).

Ignoring or misinterpreting Proudhon, Marx became convinced that capital should not have any reward, despite the fact that Proudhon's attack was on interest, not capital. This misinterpretation was to

inflict immeasurable costs and damage for more than seven decades, not only on Russia and other socialist countries but on the whole of mankind. It reminds us of Keynes' assertion that "the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood" (Keynes 1936: 383). It is one thing to attack "interest" on the basis of its evil economic consequences but another to deny any remuneration to capital—something that Marx failed to recognize. The economic evils of interest affect the majority of people in a country but devoting surplus value only to labor to protect it is to defend the rights of a minority.

But how was it that the Marxian theory of capital succeeded in ousting that of Proudhon and in giving sovereign sway to communist Socialism? Gesell had clear ideas on this:

> No capitalist is afraid of his theory... it is positively an advantage therefore to capital to have Marx... discussed as widely as possible, for Marx can never damage capital. But beware of Proudhon: better keep him out of sight and hearing! He is a dangerous fellow, since there is no denying the truth of his contention that if the workers were allowed to remain at work without hindrance, disturbance or interruption, capital would soon be chocked by an over-supply of capital (not to be confused with an over-production of goods). Proudhon's suggestion for attacking capital is a dangerous one, since it can be put into practice forthwith. The Marxian program speaks of tremendous productive capacity of the present-day trained workers equipped with modern machinery and tools, but Marx cannot put this tremendous productive capacity to use, whereas in the hands of Proudhon, it becomes a deadly weapon. Therefore, talk away, harp on Marx, so that Proudhon may be all the more surely forgotten. (Gesell 1934: 4)

He is further and rightly annoyed by Marx's examination of capital, believing it to have gone astray at the outset. According to Gesell:

> Marx succumbs to a popular fallacy and conceives capital as real wealth. For Proudhon, on the other hand, interest is not the product of real wealth, but of an economic state, a condition of the market.

> To Marx private ownership means power and supremacy. Proudhon, on the contrary, recognizes that this supremacy is rooted in money, and that under altered conditions, the power of ownership may be transformed into weakness. (Ibid.: 4–5)

As I see it, we need to make a semantic correction on the first point to read as: "Marx succumbs to a popular fallacy and conceives money as real wealth." This correction is both necessary and valid since in the next half of the statement, Proudhon talks about "interest" as the reward to money emanating from the condition of the market. The second point above is the crux of the problem and the main target of this book because Western economists have given artificial supremacy to money via speculative demand for it, in which the reward has to be interest. Given that it is a normative social convention, economists have had a hard time to prove it in the positive sphere. Unlike goods and services, which are part of the real wealth of nations, money is a shadow of goods and cannot be part of a nation's wealth, as was demonstrated in earlier chapters, even if it is given a special position in an ivory tower in capitalism. Surprisingly, this system has made use of the market both for real things and their shadows. A shadow depends on substance; it does not exist in the absence of an object. Undoubtedly, it is more virtual than real wealth. As we have tried to make clear in preceding chapters, money came into being after goods had been used in exchange. Although the logic is not hard to digest, the consequences are of great importance. Logically, shadows (virtual things) cannot be mathematically summed with real substances. This is especially true at a macro level. Substance is the only and ultimate cause of shadow. Summation of shadows with substances is another of capitalism's fallacies and shows itself in double-counting: once as the value of the goods (and services), and next as the "money" that is used to make such a valuation. There is an urgent need to liberate capital and (fiat) money from any conceivable fallacies. The primary step, taken earlier in this book, is to use the balance sheet of any central bank and note that currency held by the public always comes under the heading "liabilities" and all belonging to the central bank under the heading "assets." Our analysis is totally concerned with macroeconomic aspects of money. It is in this framework that interest emerges. In that analysis, the simple Quantity Theory of Money, as an identity, was used to explain the important issue that "money" is the device invented to value goods and services produced in an economy.

It cannot logically be added to the total value of goods and services that it is used to measure. The fallacy looks exactly like the following example: If we use an old set of scales to buy one pound of apples, after the scales come to rest, we do not have two pounds of apples because each side of scales weighs one pound. Thousands of such transactions take place all over the country but only the weight of goods is added to reach a figure for the whole country. The material used to weigh the goods is not, and cannot be, of any importance. The importance is to be attached to the goods purchased. Because such scales are no longer used, does that mean that transactions do not take place or that the value of transactions has declined?

By providing a redundant and harmful market for money, capitalism has developed a market not only for goods, but also for the shadows of goods. The Quantity Theory being an identity is not supposed to be taken as a function. A simple manipulation in this so-called theory reveals the shadow attribute of money, as follows:

$$\Sigma PQ - M \equiv 0.$$

The minus sign in front of money, M, shows its attribute. In such cases, money could be called an anti-commodity in that any increase in its volume, cet. par., brings about inflationary pressure. However, if money could be proved to be part of the wealth of a nation, what the so-called theory would look like has yet to be worked out. It is interesting to note that to Adam Smith, money was a medium of exchange and, more importantly, was not part of the wealth of nations: "Money, therefore, the great wheel of circulation, the great instrument of commerce, like all other instruments of trade though it makes a part and a very valuable part of the capital, makes no part of the revenue of the society to which it belongs" (Smith 1776 (1937): 276).

Jean Baptist Say was also of the opinion that money was merely a medium of exchange and had no utility of its own:

> I say, you want other commodities, and not money. For what, in point of fact, do you want money? Is it not for purchase of raw materials or stock for your trade, or victuals for your support? Wherefore, it is products that you want, and not money... For after all, money is but the agent of the transfer of values. (Aschheim and Hsieh 1969: 33)

It should be clear by now that these important assertions—made by those whose contributions have otherwise been generally acknowledged—have not been integrated into the capitalist system.

The critics of Keynes point out that if a system is based on interest, sooner or later people will engage in speculative activities and money would assume a third function—as a store of value.

This book attempts to promote a better understanding of the underlying nature of money and interest. As Gesell pointed out, "our knowledge of the nature of money is by no means proportionate to its great antiquity... even today, we are as far from understanding the recognized evils of money as was Lycurgus. We can applaud Pythagoras for saying 'Honor Lycurgus who banished gold and silver, the root of all evil" (Gesell 1934: 17). In fact, there is nothing wrong with "money," per se. However, something is wrong with its management and functions, as well as with the speculative demand arising from interest. Interest income disrupts the State by dividing the people into rich and poor. Our understanding of the adverse effects of interest on the general public is by no means proportionate to its discussion. The failure is less due to the defects of the human understanding than to certain external circumstances unfavorably imposed by the rich. The lack of a sound theory of money explains why the phenomenon of the rate of interest has never been satisfactorily examined. Paradoxically, interest has received a far larger share of public and scientific attention than money. Interest and its abolition are best understood only when a sound theory of money has been developed. It seems that theorists upon interest have always neglected the study of money. According to Gesell, for example, "Marx... can never have given the theory of money five minutes' attention—witness his three large volumes upon interest (capital). Proudhon underrated money less and came nearest to solving the problem of interest" (Gesell 1934: 19).

THE PLACE OF MAN IN THE ECONOMIC SYSTEM

Keeping all of the above in mind, it is necessary at this point to make some comments on the kind of economic system in which man and materials can work in a coherent and systematic order. The search for such a system is both logical and practical since compatibility of parts is a prerequisite to its success. Both capitalism and communism have endeavored to construct such a system based on their respective interpretations and understanding of human nature. Where the former emphasizes self-interest, the latter focuses on the societal nature of mankind (while ignoring its individual and family life). As far as the construction and architecture of an economic

system are concerned, they each have done a superb job, yet each has failed to comprehensively incorporate human nature into the system. Islam teaches us that mankind possesses elements of each which are to be used appropriately for specific purposes. Simultaneous possession of both gives the interdependent individual-family-society bonds the strength needed for a humane economic system called "Islamic economics." Cooperation among individuals, as one of the main pillars of Islamic economics, is essential to satisfy their spiritual needs. The holistic nature of mankind has to be taken into consideration in order to bring about the necessary link between material and spiritual aspects of life. People swing between these two poles. Emphasizing one pole at the expense of the other is harmful and puts society in a state of disequilibrium and constant change.

The question here, is: Can capital (assets) be given a new role in economic thought and in economic life and be understood as an essential link between the material and the spiritual life of mankind? Cooperation is of central importance in Islamic economics, providing the dynamism necessary to sustain the economic system while easing and accelerating the inventive and creative capacities of present and future generations. In this regard, we come close to Professor Wilken's idea that "Capital is neither by origin nor by destination, the property of any individual" (Wilken 1982: xvi). A lingering problem revolves around the fact that while production is a cooperative act, consumption is not, in that most of the resultant returns go to the provider of finance. This, it can be argued, is unjust. Although justice is the ultimate goal of an Islamic economic system, the ways and means by which it is attained themselves have to be justice-oriented.

Wilken examined the independent targets of the three agents in capitalism, which he set out as follows:

For firms, the targets are as follows:

1. Production of goods as high as possible
2. Sales as high as possible
3. Prices as high as possible
4. Wages as low as possible

For labor, the following are the demands:

1. Income (wages) as high as possible
2. Work as little as possible
3. Time off as much as possible

For consumers, the trend is analogous:

1. Income as high as possible
2. Consumption as much as possible
3. Prices as low as possible

> It is through this drive for maximization and for minimiza-
> tion that modern big business has obtained its dominating
> position in the economy. This continually disrupts the
> organic balance of the economy; obviously, the organs
> and cells in an organism must be in balanced relationship
> with one another if they are to function correctly. (Wilken
> 1982: 83)

Such conflicting targets can hardly be held together in an orderly
fashion. Unlike Adam Smith, who mistakenly thought individual
self-interest was a minimum unifying social force in all economic activ-
ity, I firmly believe that cooperation among all agents of economic
activity is the answer to the failure of both capitalism and com-
munism. In such an environment, as soon as individuals and agents
enjoy the benefits of cooperation they find themselves in positions free
from any injustice. The cooperative environment that produces max-
imum efficiency provides love and envy, the powerful dynamism for
self-improvement and promotion, and these replace hatred, jealousy,
and oppression. Unity in diversity and diversity in unity becomes a
fact of economic life. The model presented in this book is founded
in equality and liberty. It opposes any notion of the all-powerful
state on the grounds of inefficiency. What it essentially advocates is
workers' participation through labor-capital partnerships. If people
choose things that they know to be in their interest, working life and,
indeed, the entire human society would hang together strongly.

The most important feature of capitalism is interest. It essentially
manifests itself in (interest-based) loans. Loans of this sort are founded
on self-interest which excludes the lender from the outcome of the way
they are used. This means that the borrowers—mainly firms—take
responsibility for the outcome of their business. In most cases, they
have the power to pass the interest burden on to consumers in the
form of higher prices. In fact, the interest cost is part of the costs of
production. The individualistic nature of such contracts is itself the
underlying assumption of capitalism.[1] "The share (stock) is not a loan
but a 'cut' in the ownership of a firm, in the form of a fraction of the
ownership of means of production" (Wilken 1982: 36). Unlike loans,

the financial essence of shares is that it need not be paid back. Thus, the majority of the share (equity) capital controls the firm. In some circumstances, less than half of the shareholders may, in practice, be sufficient to control the firm. This has far-reaching consequences and provides the basis for the concentration of capital into a few hands. Economic power, in turn, reaches a point where it exerts significant impact in political matters. Under such conditions, democracy and the democratic society become questionable.

Because stocks (shares) are irredeemable, making it impossible to dissolve the relationship between owners and firm, stock markets developed. Shares acquire a market value which is basically designed to move closely and in parallel with their par values (face values). Speculative activities bring about the so-called speculative profit; in some instances, this far exceeds actual profit. In the preceding chapters, we saw that all activities of the kind taking place in such secondary markets are speculative and necessarily bring about interest. Given that the assets (the capital) of a firm are composed of different items the stocks manifest their values in different denominations for different firms. These denominations are the title-deeds of the issuing firm and are, according to Keynes, durable commodities for which "a rate of interest in terms of itself" emerges. In such markets, the emerging interest is due to the exchange of money for money but via a commodity (stocks). This market has its own circulation of money—the money whirlpool mentioned in previous chapters—from which interest-income derives. There are factual reasons to be skeptical about the direct relationship between the productivity of firms and the price of their shares in the stock exchange, as Wilken pointed out:

> The speculative valuation of share capital on the Stock Exchange does not in any way correspond with the economic productivity of the firm; hence it constitutes a sort of "double life" for the share capital... The way in which this alter ego is born and repeatedly animated leads to gross misuse of capital. (Wilken 1982: 37)

The fact that the difference between nominal value and market value is fictitious, says Wilken, can be gauged by:

> ... comparing statistics for market valuation with those for nominal capital—that is, the amount of money originally put in, broadly speaking. In Germany, this was reported by the German central bank as amounting, in 1971, to 59.7 thousand million marks. However, the market value was

120 thousand million marks—over twice as much—and this had risen by July 1972 to 145 thousand million marks, nearly two and a half times as much as the nominal capital... If one knew the daily turnover of share dealings, the full extent of the capital channeled away would be revealed. The sheer size of this capital diversion generates capital inflation and an inorganic increase in the quantity of money; this becomes a burden for the economy and tends to upset equilibrium[2]... This system is of course based on the assumption [made by Adam Smith] that the drive to acquire money guarantees that the proper aims of the economy will be realized... Only industrial capital and its profit has an effective role to play... the total share capital, being based on capitalization of dividend payments, is usually quite unrelated to the money capital initially invested. (Wilken 1982: 38)

Wilken separates the productive capital of a firm from such a market and calls the money circulating in it "artificial capital" and the income arising from it "artificial income" (Ibid.: 39).

It makes one wonder, along with Keynes, how "when Wall Street is active, at least a half of the purchases or sales of investments [3] are entered upon with an intention on the part of the speculator to reverse them the same day. This is often true of the commodity exchanges also" (Keynes 1936: 160 footnote). The question at this point is: How in the world could speculators be thought to have better and deeper insights into the future than experienced economists? The future of the capital market (that is, the primary market) has been made artificially uncertain and unstable by the acts of speculators. Surprisingly, the long-term future outlook for investors has been rendered uncertain by the short-term activities of speculators! Keynes put it this way:

It would be foolish, in forming our expectations, to attach great weight to matters which are very uncertain. It is reasonable, therefore, to be guided to a considerable degree by the facts about which we feel somewhat confident, even though they may be less decisively relevant to the issue than other facts about which our knowledge is vague and scanty. For this reason, the facts of the existing situation enter, in a sense disproportionately, into the formation of our long-term expectations; our usual practice being to take the existing situation and to project it into the

> future, modified only to the extent that we have more
> or less definite reasons for expecting a change. (Keynes
> 1936: 148)

Worse still is the impact of the artificially produced instability in the everyday lives of households, to which we will return shortly. It stands to reason that the world economy needs to prevent any avoidable and artificial uncertainty being imposed on the majority by the few. The message of Islamic finance and economics can provide "the" answer. Implementation of this message cannot be complete without bringing individuals and their mutual destinies together through cooperation.

What we need is an approach that incorporates mankind in all of its complexities, a kind of "humane economics" of the sort promoted by Professor Don Lavoie, who has attempted "to demonstrate that economics is closer to the humanities than to physics" (High 2006: 3). Lavoie believes that economics emerged from interactions among historical, philosophical and cultural aspects of societies.

This book is an attempt to return the focus to the more cooperative aspects of human nature, which necessitates an integration of the "tools"—that is, capital—in a cooperative context. Cooperation is not limited to labor–capital; rather, it extends to the stock of "knowledge" which belongs to all human beings. Our main concern here is with science-based knowledge but, for the sake of brevity, we will simply refer to "knowledge."[4] We need to know how society can achieve a level of intelligence and coordination that far surpasses the intelligence and abilities of any individual or group of individuals within a given generation. Our approach is somewhat different from that of Professor Hayek (1973 and 1979), in that his central question is about how knowledge is generated, dispersed and used in a society and the process by which culture is transmitted. The difference lies, therefore, in both subject matter and approach. His approach aimed at developing a theory within which "Social rules such as private property, money, and contract carry with them the capacity for ever-increasing dizzying diversity of ends, all without the consent or direction of any central authority" (High 2006: 183), as a device to demonstrate the fatal errors of socialism through the necessity of the market process as an outgrowth of the cultural revolutionary process (Hayek 1988). We, on the other hand, are looking at the causes of the knowledge-wealth of the nations from a realistic perspective and at how economic growth is related to the knowledge-wealth.

It is neither possible nor interesting to catalogue the many knowledge traits that render a national economy more or less sensitive to economic growth. Naturally, there are numerous interdependent elements working together, simultaneously or otherwise, and it is a slow, accumulative process which has taken generations to develop. It is something we may call a "universal" public good.

"Knowledge" is to be understood broadly as the sum of information and understanding inherited from previous generations.[5] It is the device through which past evolutions make up any given society's present civilization and culture. Past knowledge has shaped our present way of life and present knowledge shapes that for future generations. Knowledge knows no political boundaries: it belongs to all countries. Globalization, in this sense, becomes more meaningful than a superpower dictating her rules to other nations. That is not to deny, though, that those countries with higher social capital have made better use of this science-based knowledge and become leaders in the advancement of material well-being. Social capital is important in this transformation but the effective use of such knowledge requires dynamic elements in the system to use and diffuse the knowledge at all levels, from the top down and from the bottom up. Governments have to take responsibility for providing an environment that facilitates the transformation of the stock of knowledge-wealth into the flow of knowledge in the form of culture and social capital, as well as goods and services. The higher the rate of such transformation, the more developed the country.

With this argument in mind, there also needs to be a set of criteria for assessing the beneficiaries of this flow. As outlined earlier, I believe that a firm's laborers have the right to a share of its profits in line with the skills and knowledge they bring to their work. This requires an index by which to measure the respective contributions to both increasing production and reducing cost. On the grounds that equal treatment of unequals is unjust, the index proposed here is the intellectual-property rights referred to in Chapter 1, which can best be implemented within cooperative enterprises, where it guarantees higher profits while maintaining justice.

This suggestion has many political implications, especially with regard to the voting system in a democratic society. The existing voting system, in which the vote of a highly educated university professor is given the same weight as, say, that of an uneducated laborer, is clearly not compatible with justice, in that unequals are treated equally. However, every day millions of decisions are, implicitly or explicitly,

taken along the lines I am advocating here within international organizations, business firms, educational circles, scientific gatherings, and households, for example. But when it comes to politics, people have kept silent on the benefits and advantages of such an approach. Perhaps it is not hard to understand why the international community has chosen a different approach, given the immense political power exercised by certain politicians who might feel it more appropriate for their purposes.

Democratic societies cannot last long on double standards: one standard in politics and the other in all other areas of life. If what is being suggested here is properly implemented and a universal index is found for all countries, it will provide us with a specific index for comparing such properties in different countries. Unlike conventional quantitative measures for comparing the degree and stage of development, this method will give us a qualitative index. Combining the two measures in an appropriate way makes the comparison of countries more meaningful.

THE EVILS OF INTEREST

No country could experience severe economic problems if there were a deep understanding of money, interest, and speculation. This is neither an exaggeration nor a naïve assertion. If interest was necessary and useful, or even simply harmless, it would not have attracted so much debate and controversy. History provides abundant evidence of the harm that it has inflicted over the centuries.

No country has ever implemented a full-fledged interest-free financing system to supply a plumb-line through which almost all deviations from the vertical immediately become apparent. Such an instrument would be directly associated with economic justice and is, in my view, nothing more than the abolition of interest. If properly implemented, it would relieve millions of households that currently lie under its fatal heaviness. In short, we need a theory of money free from the anomaly of interest.

It has been asserted again and again that we need speculative demand for and supply of money in order for the rate of interest to develop. The rate of interest developed in the money market may or may not have an impact on saving and investment.[6]

1. Rate of interest is produced as the result of a loan-contract made between a lender and a borrower and looks like M

(1) → M (2), where M (2) > M (1), as shown earlier. To understand how M (1) is transformed to M (2) is not easy for laymen. It might take different forms via commodities, (C), as is the case in ordinary stock markets.

An interest-based loan involves the transfer of ownership of a sum of money from the lender to the borrower, for a pre-specified agreed period and the addition to the principal. It is based fundamentally on the individualistic behavior upon which capitalism has been constructed. Since it is based on the mutual consent of the lender and borrower, a naïve person may view it as a contract which benefits both parties. While this may be true in some cases for the individuals involved, it is not true for society as a whole. In most cases, the borrowers are experiencing some degree of hardship, to relieve which they accept all the consequences, which may result in compounding that hardship in a way that has an adverse effect on their whole lives. This quite often happens in the case of consumption loans. The production loan is quite different in both its analysis and consequences. Unlike the consumption loan, in which borrowers have no choice other than to put their family life in hardship, the production loan quite often provides an opportunity for the borrower to pass the interest costs[7] on to consumers since, in the capitalist system, these are accepted as part of the costs of production and, hence, tax deductible.

2. Heinrich Haussmann produced an interesting and amusing attempt to show the evils of interest in Germany, using statistics from the Bundesbank. To show how interest income accumulates exponentially, he quotes the example of a calculation of the increase in value of one pfennig (one-hundredth of a Deutschmark) at 5 percent compound interest from the birth of Christ to 1990. The number was huge, amounting to 134 billion balls of gold, each the size of the earth! To obtain a better understanding of the accumulated figure at different times, the time span was divided into different periods. In the first period, consisting of 296 years, only one kilogram of gold was obtained. In year 1499, the first gold ball was formed; in 1749, there were one million gold balls; in 1890, one billion gold balls were obtained. Interestingly enough in the final 100 years to 1990, 134 billion gold balls the size of the earth had been obtained (Creutz 1999: 25–6).

The simple rule of the compound interest shows that the principal amount would double every 14 years, which would produce 268 billion balls by 2004 and 536 billion in 2018.

By comparison, Haussmann showed that over the same period without interest being applied, one pfennig would amount to only one mark, just 100 times as much—underlining once again the destructive power of compound interest.

Creutz's book provides other interesting examples of the workings of compound interest, one of which is shown in Table 4.1 below.

Table 4.1 Growth of 10,000 marks after 50 years at different rates of interest

Rate of interest (%)	Accumulation (times as much)
(a) 3	4.4
(b) 6	18.4
(c) 9	74.4
(d) 12	290.0

Source: Creutz 1999: 27, Table 2

Creutz noted that while there are hundreds of billions of dollars scattered throughout the world, there is not one country in which such a sum would be sufficient to bring the rate of interest down to zero. This has never happened and, under present circumstances, will never do so. Is this not an example of artificially keeping the supply of money short of demand? This also reminds us of Keynes' skepticism about the scarcity of capital.

Public debt in Germany has increased incredibly. Debt-capital increased from 36 percent in 1950 to 49 percent in 1970, and 62 percent in 1990 (Ibid.: 53). The main concern seemed to revolve around the payment of debt-interest. The interest component of some services is shown below:

Table 4.2 Interest component of selected services in Germany, 1990

Service	%
1. Garbage collection	12
2. Water	38
3. Sewage	47
4. House rental	77

Source: Creutz 1999: 64, Table 22

Out of every 100 marks spent by each German household, one-third of it goes to interest charges (Ibid.: 63).[8] To put it another way: if every German citizen worked nine hours a day, three of those hours would be spent earning enough to pay the interest charges on goods and services each consumes. This might amount to millions of man-hours to the benefit of the rich. What is this if not invisible exploitation?

Other enlightening statistics from Creutz's book show that in 1990, German capitalists earned $99 billion, with interest income at $257 billion for the same period. The interest component of the national income was 4 percent in 1950 and increased to 23 percent in 1993; the trend since has continued upward. Meanwhile, for the period of the study, the growth rate of national product was less than the rate of interest. The impact of a 1 percent decline in the rate of interest on employment was more than that of $1 billion of government spending.

The capitalist system is a zero-sum game. The fact that all markets are independent of each other makes effective cooperation almost impossible. As a consequence, the poor get poorer at the same rate that the rich get richer. The income-wealth dominance of the rich is never without economic consequences. Without doubt, the distribution of income (and wealth) has a real impact on general price levels. To illustrate this point, imagine a society with three income groups—high, middle, and low—whose demand for a specific commodity is D(1), D(2), and D(3), respectively. It can easily be shown that the total price elasticity of these three income groups, e, is not simply the sum of the three elasticities; that is:

$$e \neq e(1) + e(2) + e(3).$$

If the share of these three groups of the market is:

$$C(i) = D(i)/D; \quad i = 1, 2, 3$$

Then using the fact that:

$$D = D(1) + D(2) + D(3) \text{ and}$$

$$dD/dP = \frac{d[D(1) + D(2) + D(3)]}{dP} \tag{4-1}$$

Then

$$e = [dD/dP][P/D] = [P/D]\{d[D(1) + D(2) + D(3)]\}/dP \tag{4-2}$$

We conclude that:

$$e = \sum_{i=1}^{3}[C(i)][e(i)].$$

This is an interesting result because it means that the higher the share of the market in the hands of the rich, the lower would be the total price elasticity of demand and the higher would be the chance for upward pressure on the general price level. In other words, the less equitable the distribution of income (and wealth), the higher the likelihood of the general price levels rising.[9] The message here is that in order to have a sound economy, the more equitable the distribution of income and wealth should be. It has to be kept in mind that all goods and services are interrelated: vertically for substitutes, and horizontally for complements. This maxim, however unimportant it might look, is often overlooked in inflation theories. In summary, there are mutual interdependencies between the distribution of income and the general price level, which is hard to deny.

3. Another study into the possible impact interest might have on economies looked at seven countries with identical time-series statistics: the United States, Japan, the United Kingdom, Germany, Canada, Sweden and Norway.[10] Some of the more relevant findings are summarized below.

    a. Yearly statistics for the period 1967–97 were used for the U.S. The Gini coefficient (G) was used as a measure for income distribution index and the ratio of consumer price index (CPI) to capacity utilization (CU) as a measure of stagflation. The results of regressions coefficients showed an inverse relationship between CPI and G. This negative relationship means that the more inequitable the distribution of income, the stronger the pressure of stagflation. Further, the Gini coefficient could make corrections on the deviations of stagflation and bring it back to its original path after about two and a half years.

    b. The statistics for Japan covered the period 1955–90, inclusive. The Gini coefficient was again used for the distribution of income index, the Manufacturing Aggregate Hours Index for the stagflation index, and CPI for inflation. The results showed that there was a two-way relationship between stagflation and the Gini coefficient in the short run. However, a uni-directional relationship

was found between stagflation and the Gini coefficient. As with the U.S., the relation direction was from G to stagflation. Nevertheless, the causality test from stagflation to G was not supported by statistics.

c. The U.K. study covered the period 1960–91, inclusive. Again, stagflation was defined as the ratio of CPI on the Manufacturing Aggregate Hours Index. In this case, the short- and long-run causality of the Gini coefficient and stagflation was examined. The existence of mutual (two-way) causality between the two variables was not supported by the statistics in the short run. For one reason or another, irrelevant to our discussion here, the long-run causality test was not supported either.

d. The German study covered the period 1955–91, inclusive. Long- and short-run relationships between distribution of income and stagflation were the principal concern here. The Gini coefficient and Manufacturing Aggregate Hours Index were again used for the distribution of income and stagflation, respectively. Stagflation was again defined as the ratio of CPI over Manufacturing Aggregate Hours Index (or capacity utilization). Results indicated a uni-directional causality from the Gini coefficient to stagflation in the short run. The causality does not exist from stagflation to Gini coefficient. The long-run results show that 82 percent of the Gini coefficient deviations from its long-run trend take about one year to adjust the fluctuations of the stagflation. Meanwhile, the Gini coefficient was not capable of adjusting stagflation from its long-run trend.

e. Canada made the statistics for the period 1968–97 available. Depression was explained as Manufacturing Aggregate Hours Index and stagflation as the ratio of CPI over the said index. The relationship between stagflation and the Gini coefficient showed a one-way causality from the latter to the former in less than a year, whereas in the period longer than one year, the causality goes the opposite way: from stagflation to Gini coefficient. The long-run results show that the Gini coefficient was capable of adjusting stagflation from its long-run trend after two years and nine months. The reverse was not true.

f. The statistics for Sweden covered the period 1951–91, inclusive. The variables used here were the same as for the previous three cases and defined the same. Statistical results showed a short-run causality from stagflation to the Gini coefficient, but not the reverse. In addition, either one of these two variables was capable of adjusting the other from its long-run fluctuations. However, the adjustment took place faster from stagflation than from the Gini coefficient.

g. Norway's statistics covered 1962–91, inclusive. All variables used were defined as for Sweden. Results showed a short- and long-run causality from the Gini coefficient to stagflation but did not support the opposite. In correction models, it was further demonstrated that while the Gini coefficient was not capable of correcting deviations of stagflation from its long-run trend, stagflation could adjust deviations of the Gini coefficient from its long-run trend with the adjustment speed of 56 percent per year.

The overall results are not conclusive with regard to there being a uni-directional causality from the Gini coefficient to stagflation. In some cases, the hypothesis was verified but in others, not. But this does not by any means invalidate the hypothesis, which is based on economic logic. The inconclusiveness has to be attributed to the structural differences in the socio-cultural-economic system of each country. What is certain is that an almost purely capitalistic system such as the U.S. suffers from its structural-economic foundations.

As Professor Weitzman, among others, has shown, the United States has in her structure an inbuilt stagflation element, as the title of his seminal book *The Share Economy: Conquering Stagflation* (1984) seems to imply. As noted earlier, Weitzman copied his labor remuneration system from Japan, whose socioeconomic and cultural systems are quite alien to America's almost pure capitalism.[11] The conflicting goals of different agents in capitalism will eventually lead to its collapse, though not for the reasons Marx gave. The problem lies elsewhere, as this book suggests.

3. One final example reveals the ugly face of compound interest for what it is. The task is twofold: first, to investigate the structure of the interest-based versus interest-free contracts and, second, to compare their impact on the well-being of

consumers. The reader will realize that the example used is an over-simplification and that the impact of the entire scheme of interest-free contracts on the economy go far beyond the conventional beliefs.

Assume that the cash price of an item of property—an automobile or a house, say—is 12,000 units of money. Further, assume that the property under consideration can be bought on an installment basis in an Islamic system and with an interest-based loan in a capitalist system. Assume also that in either system, payments will begin after one year and will be made in 10 equal installments thereafter. If both mark-up and interest rate are assumed to be 10 percent, then the following figures show how these two schemes of repayments are treated in practice and what kind of an impact they have on the consumers' right to own the property.

With some exaggeration made in Figure 4.1, the shaded area accounts for interest charges, which is obviously larger than that of the corresponding area for installment sales. To get a better picture for making the two schemes comparable, the corresponding tables for each scheme have been produced below.

Figure 4.1   Proportion of interest charges to monthly payments (loan)
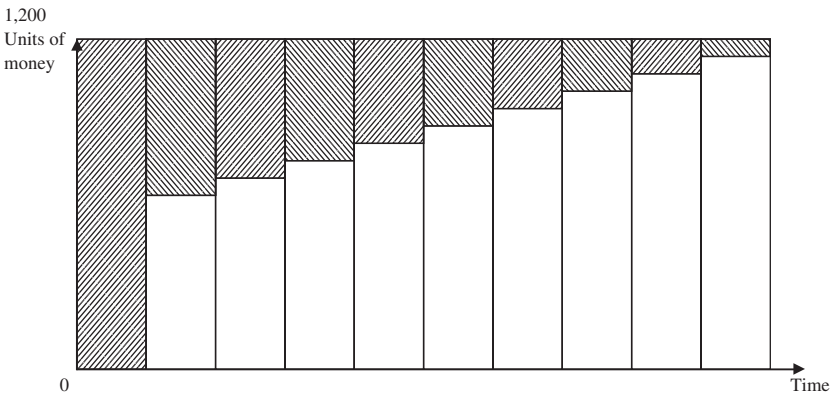
Figure 4.2   Proportion of mark-up rate to monthly payments (installment sales)
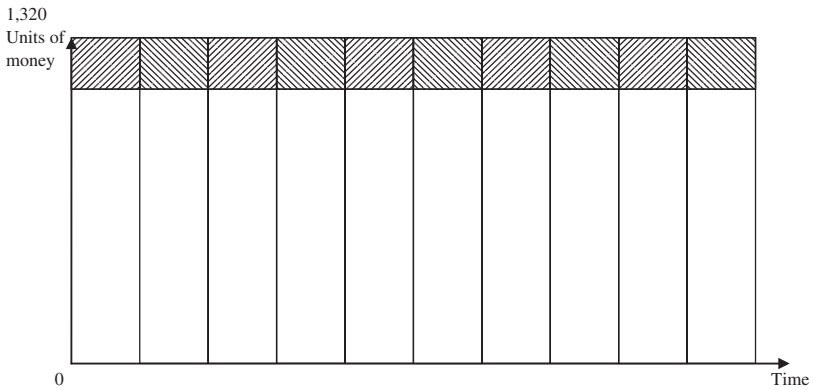
Table 4.3   The structure of interest on principal of a loan

Period	Principal	Interest	Payment	Payment from principal	Balance
1	12,000	1,200	1,200	0	12,000
2	12,000	100	1,200	1,100	10,900
3	10,900	91	1,200	1,109	9,791
4	9,791	82	1,200	1,118	8,679
5	8,679	72	1,200	1,128	7,551
6	7,551	63	1,200	1,137	6,414
7	6,414	53	1,200	1,147	5,267
8	5,267	44	1,200	1,156	4,111
9	4,111	34	1,200	1,166	2,945
10	2,945	25	1,200	1,175	1,770
	TOTAL	1,764	12,000		

Table 4.4 Payment structure of installment sales

Period	Principal	Total mark up	Total Payment	Monthly Payment
0	12,000	1,200	13,200	0
1	-	-	-	1,320
2	-	-	-	1,320
3	-	-	-	1,320
4	-	-	-	1,320
5	-	-	-	1,320
6	-	-	-	1,320
7	-	-	-	1,320
8	-	-	-	1,320
9	-	-	-	1,320
10	-	-	-	1,320
	TOTAL			13,200

Comparing these two tables, we notice the following:

a.   The effective rate of interest at the end of the 10-month period in the loan case is 15 percent ($1,764 \div 12,000 = 15$ percent). This is 50 percent more than the mark-up rate on installment sales of 10 percent ($1,200 \div 12,000 = 10$ percent) for the same period.

b.   At the end of the total period ($12 + 10 = 22$), the borrower owns only 85 percent of the property and the rest ($1,770 \div 12,000 = 15$ percent) is still the possession of the lender. In the case of the installment sale, the consumer owns the whole property.

c.   If in either case, the borrower and the buyer decide to pay the balance to the lender of money and the seller, respectively, after four payments, the borrower has to pay 9,791 units of money; in the Islamic case, with minor simplification to the benefit of the loan contract, the buyer has to only pay 7,920 units of money—a difference of 24 percent ($9,791 \div 7,920 = 1.24$). This obviously has an adverse effect on the well-being of consumers in situations of need. However, there is a difference in monthly payments: 1,320 units of money in the case of installment sales compared with 1,200 for the loan.

The simple example chosen here is not intended to show the whole impact of compound interest on consumers. In more complex situations involving firms, the results are overwhelming and can often end up with lay-offs and bankruptcy, with all the unpleasant social and economic consequences that attend upon them.

The central message of this book is the absolute necessity for the abolition of both interest and speculation. This would be costly but the benefits—stable prices, full employment, equitable distribution of income and sustained growth in a system that is counter-cyclical—far outweigh the costs. It should be noticed at this point that without speculative demand for money, the elasticity of aggregate demand with respect to changes in the quantity of money will be equal to unity (Aschheim and Hsieh 1969: 141). In the absence of speculation, this would ensure that the economy was as smooth and desirable as possible.

NOTES

1 Pareto efficiency does not make any reference to society. It has been made clear that "there is no 'society' above and beyond individuals" (Connolly and. Munro 1999: 33). In this type of system, society is nothing than a simple summation of individuals comprising the society. This is in complete contrast with Islamic economics, in which society has its own identity.

2 In the search for the root cause of inflation, besides the conventional theories, it has been proved that such unjust incomes in the hands of speculators in any market increases demand for goods and services for which no production has taken place, and is believed to be the origin of inflation. This approach and conclusion had rarely been referred to as the cause of inflation. Further, any increase in demand for goods and services in one of the sectors of the economy, due to horizontal and vertical linkages between commodities, will diffuse inflation throughout the economy. For further details and conclusions, see Toutounchian 2001 = 1379, Chapter Four.

3 Such purchases or sales cannot be considered as investment, in that investment is used for any positive difference between current stock of capital from that of the previous period. Furthermore, investment, by definition, takes place in the long-term and short-term speculative activities do not fall within this category. Statements such as this, even coming from a genius like Keynes (for whom I have the highest respect), have caused considerable confusion among generations of economists.

4 The importance of science-based knowledge is better understood if we employ "scientific knowledge" to refer to the specifics of what we have in mind, rather than the conception of "knowledge" in general. In this section, we employ the former connotation, unless otherwise specified.

5 We have used the language of Professor Don Lavoie in a different context; see High 2006: 34.

6 Regarding the inconclusiveness of the impact of the rate of interest on investment, see Evans 1969: Chapters 4–8.

7 In the case of mark-up pricing, the higher the cost, the higher would be the profit of the seller. It is the consumers who bear the whole burden, not the borrower.

8 I leave it to the reader to determine how this figure of 33 percent can be reconciled with the country's rate of interest being around 5–7 percent.

9 Statistical evidence of the developed countries might show an outcome contrary to our assertion in that, despite unjust distribution of income and wealth, the inflation rate is lower than in developing countries. This dichotomy can be resolved with reference to the criterion for

development, mentioned earlier: that is, the development to the rate of transformation of the stock of knowledge-wealth to flow, which is in turn the outcome of strong social capital. The high rate of inflation in developing countries, especially oil-producing countries, can be attributed to the inequitable distribution of income, the slow rate of transformation of knowledge-wealth, and weak social capital. This hypothesis about inflation shows how complex the issue is, something which has quite often escaped the minds of some economists. Although major oil-producing countries in the middle-east are Muslim, this does not mean that their entire economic and banking systems are based on Islamic principles. For them, Islamic banking seems to be a political, rather than a banking, issue.

10 See Toutounchian 2000/01 = 1379: 641–94.

11 Professor Weintraub asserts that: "A capitalistic economy is one in which labor is hired by business firms in the expectation that the output of labor will be saleable in the market place. This is the nature of the capitalistic system... An appreciation of this proposition is crucial to an understanding of a market economy." (Weintraub 1966: 13) In a footnote on the same page, he adds: "Unfortunately, this simple proposition is overlooked and economic mischief propounded in the theory of the price level, where consumers are supposed to have money to spend on goods—without the theory ever examining the source of the consumer wherewithal; the wage earning process is simply overlooked. It is just at this stage that Quantity Theories of Money are distinguished from the Wage-Cost Theory of the price level."

Islamic Banking versus Conventional Banking

THE STRUCTURE AND FUNCTIONS OF BANKING

Our main goal in this chapter is to compare the basic economics of the operations of the conventional, interest-based, banking system (C) with those of Islamic banking (I). While the examples given have been simplified, the economic model developed here can also be used to describe the behavior of more complex cases. Ignoring for simplicity the task of issuing checking deposits, our simple C-bank specializes in two tasks. First, it receives loans from its depositors, to whom it pays interest, r (1). In our example, as deposits are not subject to legal reserve requirements, the bank can lend out all deposits it receives if it so chooses. It is important to note that the willingness of our bank to lend out what it has borrowed is based on the legal aspects of a "loan." This means that as soon as a loan is received by the bank, it will remain in the possession of the borrower for the entire loan period. This temporary ownership of right allows the borrower to use it in any way it pleases.

Our C-bank uses deposit funds (that is, the loan received from depositors) for its second task, which is to provide loans to its customers. All such loans are collateral-based, because of which no one customer exhibits more or less risk of default since the value of the collateral quite often exceeds that of the principal plus interest charges. For even greater simplicity, we will assume that all the loans have the same maturity. In return for making these loans, the C-bank receives interest payments, [r (2) > r (1)], from its borrowers.

On its balance sheet, therefore, the bank has one category of liabilities—the deposits—and one of assets—loans.

The C-bank, as a legal entity, plays a dual role: to receive loans and to make loans (see Figure 5.1 below). In other words, it does not

change the legal nature of the "loan." This makes our bank both a monetary institution working with the volume of money (M) and the rate of interest, (r), and a fund intermediary, with no obligation to channel it through specific projects. If all such banks are assumed to perform the same, then the policy they follow would be monetary, designed to have an impact on both money and interest rate.

Figure 5.1   Simplified legal structure of interest-based banking

$$r_2 > r_1$$
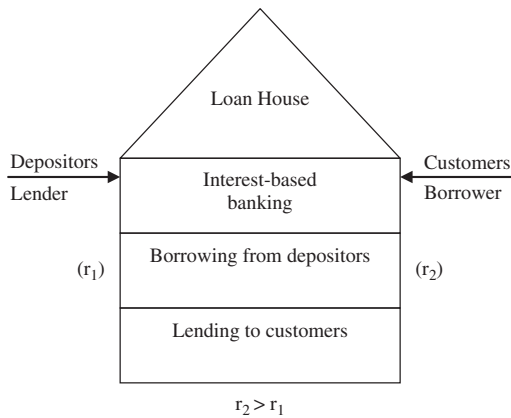
The most important features of our bank and the variable(s) it works with are of the following nature:

- It is a loan house.
- It has deposits as its inputs and loans made to customers as outputs.
- It has depositors and customers who act on the basis of loans given to or received from the bank.
- Accumulation of deposits makes it a powerful "monetary" institution with "monies" available for lending, leaving the legal aspect of loans intact.
- It will only be concerned with gathering more deposits and lending out more money, part of which will go for speculative activities (for which the bank has no responsibility) and the rest for debt-capital. The "money whirlpool" this produces brings about inequality between saving and investment, whose immediate result is unemployment.
- It does not play an active role in the economy in that, as long as the borrower has sufficient collateral, the purpose to which

the loan is put does not matter. In other words, money goes where the "return" is highest, not where it is needed most.

- Interest charges from both sides are considered as a "cost." Interest paid to depositors is part of the cost of the bank; similarly, interest paid on borrowed money is part of the cost of the borrower.
- The cost of money for our bank is r (1).
- The rate of interest is basically determined as the result of speculation on money.
- Any changes in the rate of interest come from the money market. Quite often, these changes are dictated by the monetary authority, the Central Bank, and are due to interference in the market mechanism, despite the misleading idea that the market mechanism brings about efficient allocation of resources. Even if this assertion happens to be true, it should be noticed that it does not guarantee justice (equity).
- Risk is inherently interwoven with investment. Our bank does not involve itself in any investment project; rather, by lending money, it keeps itself away and safe from any risk. Thus, the C-bank plays a completely passive and neutral role in the economy from which it flourishes.
- As we have seen, the individualism implicit in capitalism makes it a zero-sum game. Given that people necessarily interact with others with different and quite often opposing goals, such a game produces conflicts of interest. In addition, as long as there are other ways to earn "income," the borrower need not engage in any "productive" activity. Speculation, the first immediate derivative of interest, is often an attractive alternative in that the speculator need not engage in the difficulties associated with such things as labor–management relations, pricing policy, the most effective use of existing technology, and so on. The huge amounts of money circulating in speculative activities offering a rate of return far above those offered in "productive" activities can only have adverse effects on the economy.
- The balance sheet of our bank is such that the value of either side of it varies inversely with general economic activity. Although this might be thought to keep our bank on a safe margin, it also emphasizes the point that it is not integrated into one whole system, all elements of which tend to go up or down simultaneously. Such a bank is alien to the general economic activity. An economy based on such paradigms

is quite vulnerable, as the recent history of capitalism has shown.

Western economists assume that conventional banks, like any other businesses, seek to maximize their profits. Profit here, as is evident from Figure 5.1, is the difference between interest-incomes received from money loaned out and interest expenses paid to depositors. This difference might be called "net interest (*Riba*) income," to distinguish it from profits earned by economic activities in producing goods (and services, other than banking). This distinction becomes important when we reach the discussion of operational costs of such banking, especially when these costs are passed on to the consumers *as if* they were independent economic agents. The carelessness of the C-banks about economic performance of the system means that it has become separately and independently studied from the real sector as a result of the conflicting interests of the two sectors.

We should also recall that accounting profits are the difference between a firm's revenues and explicit costs incurred. Its economic profits are the difference between revenues and economic costs, which include its explicit costs and implicit (opportunity) costs, the latter incurred from being in a specific line of business. In earlier chapters, we tried to bridge some of the accounting and economic concepts, especially the definitions of "cost" and "capital" and we need to bear these in mind here. When it comes to the opportunity cost of capital in both conventional and Islamic systems, staying or not staying in a specific line of business has very important implications.

Again, our conventional bank has revenues which come from interest earned from loans to its customers. It also has costs, sometimes called "total revenue costs of deposits" (for further details, see Miller and VanHoose 1993: 171–83; and Miller and Pulsinelli 1989: 55–67). Banks such as our C-bank concentrate their operations on transactions on the money market in which $M(1)$ is changed to $M(2)$ where $M(2) > M(1)$ because of interest charges after the maturity date. The difference is nothing but "time value of money," which is different from "money value of time." The former is interest, and hence illegal in Islam, while the latter is permitted in Islam. It is worth noting that even more-complex operations of C-banks do not change our conclusion in any meaningful way. The money going into C-banks through deposits and the money coming out of them will not have an appreciable impact on economic activities in the form of producing goods until it changes its legal aspect to become actual

capital. As long as money remains potential capital and is pumped into an economy in the hope of stimulating the system, not only will it fail to become an incentive for increased production but it will also have adverse effects on the economy by raising general price levels.[1] Furthermore, it is almost impossible to anticipate with any certainty the extent to which the GDP will go up in line with changes in the money supply. This was perhaps the main reason Professor Freidman[2] proposed:

> … a reform of the monetary and banking system to elim-inate both the private creation or destruction of money and discretionary control of the quantity of money by central bank authority. The private creation of money can perhaps best be eliminated by adopting the 100 percent reserve proposal, thereby separating the depository from the lending function of the banking system. The adoption of 100 percent reserves would also reduce the discretionary powers of the reserve system by eliminating re-discounting and existing powers over reserve requirements.
>
> To complete the elimination of the major weapons of discretionary authority, the existing powers to engage in open market operations and the existing direct con-trols over stock market and consumer credit should be abolished. (Mueller 1966: 339)

It is important to note Friedman's underlying assumptions for his assertions. It is evident that his proposals are made in the context of the supply of money being exogenous to the system. He also implicitly raises the alarm on the dangers of separating the money sector from the real sector. It can be argued that if money were an endogenous variable, as it is in an Islamic framework, Friedman would never have suggested restrictive proposals such as having a 100 percent required reserve ratio (RRR). His later proposal of a zero nominal rate of interest (known as the Friedman Rule), which would be incompatible with 100 percent RRR, seems once again to raise the danger of money being an endogenous variable. If my assessment of Friedman's implicit assumption is correct, it reinforces Professor Davidson's remarkable caveat: "The inevitable conclusion is that even this Neoclassical-Bastard Keynesian system cannot be dichotomized into independent real and monetary subsets; consequently, it is not correct to separate monetary economics as has often been done" (Davidson 1972: 169, cited in Fisher 1978:105).

Fisher also cites an important study by Professor Teigen, who obtained estimates of both demand and supply functions for the United States using "two-stage least squares, a technique which removes, rather than explains the troublesome endogeneity [and] concludes that...the supply of money function ought to be made endogenous" (Fisher 1978: 83).

Most literature on the subject of Islamic banking, which is based on completely different foundations, concentrates solely on the Quranic prohibition of *Riba*. There has been very little research on the implications and the economic consequences of such a prohibition when properly launched. We devoted considerable attention in earlier chapters to the evils of interest-based banking. What we expect from Islamic banking is not only to remove "the evil" of interest, but also to provide an environment where there are stable prices, full employment, equitable distribution of income and wealth, sustained growth and no business cycle—something the capitalist system has not been able to achieve in the last two centuries.[3]

Figure 5.2 illustrates the legal structure of this system and makes use of profit-and-loss sharing (PLS) as the pillar of Islamic banking.

Figure 5.2   Simplified legal structure of Islamic banking
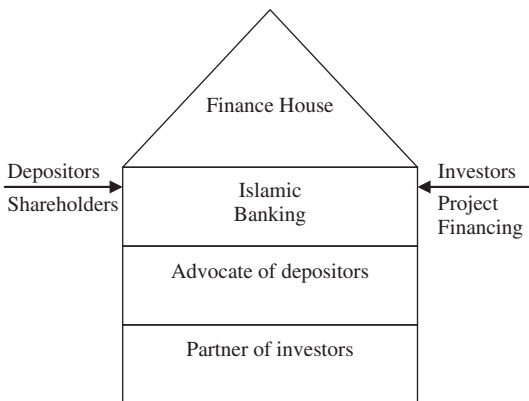
There are special features of an Islamic bank which make it fundamentally different from a conventional bank:

- Depositors are no longer lenders to the bank; they are shareholders in any activity in which the bank becomes involved.
- The Islamic bank is an advocate for depositors in that it takes their interests and those of society in general into consideration in all of its decision-making.[4]

- The customers are potential investors through having a PLS contract. They are no longer borrowers. They have to have an investment project proposal whose justification—economic, technical, and financial—will have already been approved by the bank. This means that every dollar going out of the bank has to be project-specific. This is the way projects are financed.

- Through its engagement in PLS contracts, the bank becomes the partner of investors and, unlike its conventional counterpart, provides equity-capital rather than debt-capital. The Islamic banking institution as the "financier" channels funds to specific projects proposed by the firm applying for partnership, the "financee." The bank then becomes a shareholder on behalf of its depositors and thus, unlike the conventional bank, has the right to monitor the way the finance is being used. This makes the money supply for conversion into actual capital an endogenous variable and the supply of money is thus synchronized with production in a way that is not reliant on the required reserve ratio for purposes of alignment. In fact, this could be safely lowered down to zero. Further, as long as there are justifiable investment projects, the supply of money could be increased, without limit, with no fear of inflationary pressure. During the gestation period of certain projects, however, there might be occasions where the prices of some commodities in short supply go up. However, as soon as investors and consumers satisfy themselves that such shortages are merely temporary, there is no reason for consumers to panic.

- All in all, our Islamic bank is neither a loan house nor an intermediary funding institution; rather, it is a finance house directly involved and integrated into the economic system.

- There is no guarantee of a predetermined rate of return to the depositors. However, the expected rate of return (profit) is what makes the Islamic bank a strong financial institution in that its general and active performance in the economy attracts depositors. This means that the cost of capital is zero (a more detailed explanation will follow in coming chapters). In this sense, the tasks and commitments of bank management are similar to those of any Islamic firm which pursues not only the interests of its shareholders but also those of society in general. This clearly differentiates it from privately-owned firms in the capitalist system. We will return to this pivotal link between

private and social interests in the following chapters. To better understand and distinguish the differences between the activities of an Islamic bank and their impact on the economy from those of the conventional bank, one need only compare the nominal value of stocks in the absence of speculation with the par value of bonds resulting from speculation. Where the former exactly exhibits the performance of the economy, the latter often reflects something quite different. More importantly, the dividend paid to stock-holders will not represent part of the cost of the issuing firm but the interest on bonds, unquestionably, is part of the cost of the issuing firm. Again, stock-holders are not promised a predetermined return and thus the cost of obtaining equity-capital is zero. Bond-holders definitely expect a return from the outset, which counts as a cost of debt-capital. Further elaboration and the logic underlying this argument might seem a challenging issue for some scholars.

- There is no need for banking authorities to intervene in the market, as the Islamic bank is expected to play an active role in a capital market free of any speculation. Determining the ratio of profit shares to capital is not undertaken through intervention in the market. In this, our system adheres to market mechanisms more closely than the conventional system pretends to. Surprisingly enough, investment projects which are long-run in nature cannot and ought not to respond to very short-term changes of interest rates. Moreover, there is always an urgent need for potential investors to make decisions in a stable environment; something which everyday changes in the rate of interest and expectations on its future changes do not allow. Such changes are the products of speculative activities which benefit a few at the expense of the majority. These activities can be avoided by allowing the system to take its natural course while monitoring the outcome. The conventional system has proven over the past several decades that it is unable to stand up on its own. My criticism of the capitalist system and its inevitable collapse is more fundamental than that of Marx. Where his main concern was with the exploitation of labor, ours here is much broader in that it incorporates every individual exploited by *Riba*. Exploitation, here, does not refer to underpayment to individuals to the benefit of capitalists but being exploited with *the invisible hand of interest* exhibited in unemployment, inflation, inequitable distribution

of income and wealth, business cycles, and irregular growth in the zero-sum game called capitalism.

- The nature of PLS requires the Islamic bank to get directly involved with risky capital investment, which requires that it take an ownership stake in any joint venture it enters into. The bank becomes fully involved to ensure that the capital—not money—is used wisely.

- Following the Friedman Rule, it seems that the necessary condition for achieving full employment is through elimination of interest—that is, a zero nominal interest rate, to be specific. If speculation as the first and immediate derivative of interest is completely abolished then full employment can be guaranteed. This important target can be maintained in an Islamic setting and Islamic banks would bring about the necessary savings and investment conditions through providing equity-capital and monitoring measures, but the rest of the system would take responsibility for maintaining those sufficient conditions.

- Under such a system, the banks' balance sheets on the asset side would show the various equity positions they hold in different firms under PLS contracts, the values of which would vary with the general economic conditions. On the liabilities side, deposits would work more like shares in a mutual fund. The returns to depositors would vary with those of the firms whose projects have been financed by the banks. There are hundreds of different projects financed by the Islamic banks which encompass the whole economy. If the economy does well, the profits would be distributed proportionately to the shareholders. Similarly, if the economy does not do well, losses would be shared proportionately. This has the advantage of bringing the aligning the interests of all concerned and strengthening the sense of cooperation among laborers, consumers and the firms. The stronger the ties, the higher the social welfare of the system and the fewer the potential conflicts. With such an arrangement, there would be no need, as Professor Akacem put it, for:

... deposit insurance and no likelihood of financial panics, since both sides of the balance sheet would move in tandem ... It is tempting to conclude that an Islamic financial structure would not be conducive to risk-taking, and might stifle the entrepreneurial spirit for which America is prized. Perhaps. But it could also be argued that such a system would eliminate the financing of the marginal

projects from the start, and thus remove the likelihood of a major bailout. (Akacem 1991)

The issue of risk-taking is an important one in Islamic banking and it has its origins in the social responsibilities of the banks.[5]

The great advantages of Islamic banking over the conventional system have been attracting attention from many scholars.[6] Unfortunately, a great deal of confusion and misunderstanding about this subject continues to exist, even among Muslim scholars. This book is an attempt to redress the balance.

Among the advantages offered by PLS contracts are the following:[7]

a. Interest results in inefficient resource allocation since loans not only go for speculative purposes but also to more creditworthy borrowers rather than to more productive projects.

b. Despite the general conviction that interest has the important role of making efficient allocation of scarce resources, the logic becomes useless as the number of projects increases. Investment projects compete with each other on the basis of IRR before they reach the cut-off rate externally imposed by the rate of interest. You will recall how the G-7 group, individually and collectively, demonstrated that rates of profit did not get close to the long-run rate of interest in these countries and were also far apart from each other. The profit rate would be greater if the internal rate of return were used instead of the rate of interest.[8]

c. The problem of whether interest rate is inversely related to investment remains unresolved. Empirical results do not provide conclusive evidence as to the relationship between these two variables.[9] In an excellent and valuable survey, W. H. White had the following to say:

From the late 1930s, economists have been growing increasingly skeptical of the value of monetary policy for moderating the swings of the business cycle or for controlling inflation. The main source of this skepticism lies, with regard to conditions other than deep depression, in the evidence provided by a number of empirical investigations showing that the interest elasticity of demand for investment is extremely small. (White 1966: 95)

In conclusion, he remarks: "In view of all their defects, no definite conclusion can be drawn from the surveys of business

attitudes toward capital costs. The surveys do indicate that investment is to *some* degree less interest-elastic than thought by the proponents of interest-rate policy" (Ibid.: 113). Given the continuing doubt about the impact of interest rates on investment, it remains to be seen what role interest plays other than to inflict irreparable harm on the majority of households to the benefit of very few.

d. Money creation in the conventional system is based on lending, which makes it prone to an oversupply of money (that is, inflation), as there is no direct linkage between additional production and additional money supply. Debt-financing based on fixed and predetermined rates of return (namely, interest) on money produces ways for money to go astray, mostly for speculative purposes, from the production process in which it was once supposed to make saving (S) identical with investment (I). In the Islamic system, on the other hand, the abolition of interest and the prohibition of speculation on any durable commodity would necessarily bring these two into equality (following the Friedman Rule).

e. Public-sector borrowing based on virtual wealth rather than backed by tangible assets adds to the burden for future generations. Islamic asset-backed financing does not carry a debt-burden; and in the rare and unlikely event of inflation, its value goes up and assets are available which can be liquidated to repay the shareholders.

f. Except for current accounts (the liabilities of the Islamic bank), all other deposits are accepted on a fiduciary basis and are invested on behalf of depositors who enjoy the major portion of the profits[10] and bear any losses, unlikely though they are.[11] While profit is important for Islamic banks, it is not their main objective. The emphasis is on achieving the community's socioeconomic objectives in line with the injunctions of *Shariah*. Giving depositors a share in the profits of firms financed by the banks, in which the rate has been shown to be much higher than the rate of interest, brings about a more equitable distribution of income. It also creates a greater incentive for others to save more, which, in the absence of *Riba* and speculation, brings the system into full-employment equilibrium. The role of the Islamic bank is, as depicted in Figure 5.2, that of an advocate who manages to legally transform money deposits (potential capital) into actual

capital on behalf of depositors. This system ensures that the assets and liabilities of the Islamic bank are always in balance. The stability of the system is increased by the close linkages between financier and financee. It is not hard to demonstrate that a sharing system is more conducive to growth, as it affords greater initiative and drive to the entrepreneurs.

g.   The proposed system follows Lord Keynes in his belief that:

It is much preferable to speak of capital as having a yield over the course of its life in excess of its original cost, than as being *productive*. For the only reason an asset offers a prospect of yielding during its life services having an aggregate value greater than its initial supply price is because it is *scarce*; and it is kept scarce because of the competition of interest on money. (Keynes 1936: 213; original italics)

I am convinced that the scarcity of capital in the capitalist system arises from the misconception that money is a private good in which price is interest. As demonstrated in previous chapters, money is an impure public good and if it is given into the hands of the private sector, it will produce a less-than-optimum performance which results in unemployment. This assertion goes one step further than Keynes, for whom the only remedy for unemployment was to bring the central bank under public control (Ibid.: 235). With the rate of interest changing every day, many projects become justified while others are rejected. This is not incompatible with interest inelasticity of investment expenditures, as cited earlier. Expectations of future changes in the rates of interest create uncertainty for investors as far as the price elasticities of the commodities they produce are concerned. This, in turn, has a negative effect on investment decision-making, which makes this variable the most volatile of the components of GNP. In a reversal of the Friedman Rule, Keynes asserted that "the rates of interest will only reach equilibrium when there is full employment" (Ibid.). The abolition of interest rates and the consequent removal of speculation in any commodity market will guarantee full employment in an Islamic setting. Keynes had more to say on this:

The only alternative position of equilibrium would be given by a situation in which a stock of capital

sufficiently great to have a marginal efficiency of zero also represents an amount of wealth sufficiently great to satiate to the full the aggregate desire on part of the public to make provision for the future, even with full employment, in circumstances where no bonus is obtainable in the form of interest. (Ibid.: 218)

h.   "The Islamic financial institution system honors the rights of ownership by individuals and institutions. It favors just rewards for hard work, skill and initiative, and makes the relationship between the individual and the community one of cooperation, integration and duty." (IIBI 2000: 5)

i.   In an efficient and well-organized cooperative economic system, inflation arising from the mismanagement and mistakes of economic agents will be minimal, if not zero, as the supply of money is fully synchronized and directly linked with economic activity.

Before we conclude this section, it is worth noting that while the Islamic bank is value-oriented the conventional bank is value-neutral; and that:

Islamic banks are multi-purpose banks, as they play the role of commercial banks and investment banks, as well as development banks. They operate in the short term like conventional banks [such as handling of current accounts, opening of letters of credits based on *Qard-ul Hassan*, collection, remittances, safe deposits, and so on, on which the bank earns fees, commission and exchange], and in the medium-and long-term investment development banks like non-bank financial institutions … depending upon the structure of their resources. (Ibid.: 5–6)

All of the above-mentioned advantages of an Islamic finance system have to be put at the forefront of the research agenda. While much has been undertaken in this regard, much remains to be done.

But the central question has yet to be answered. Why, despite their strong social capital, their hi-tech developments, increased efficiency and other advantages, do developed countries still experience inflation and high unemployment? As should be clear by now, I firmly believe that interest has proved to be the Achilles heel of the capitalist system.

If a community has committed itself to Islamic banking practice and yet has failed to realize the full advantages it holds out over the

conventional banking system, then it is clear that the Islamic system has not yet been properly launched. There are increasing numbers of countries, Islamic and non-Islamic, which have started to operate on Islamic principles, yet almost all continue to suffer from the same problems encountered by the capitalist system. In my observation, this arises from the fact that they are mostly organized along political, rather than banking, principles and are designed to absorb billions of dollars from Muslim countries, irrespective of the consequences. The mere surface of *Shariah* principles has been used as a cover for conventional-system practice, especially among Islamic banks located in non-Muslim countries. There is no logical reason why the real advantages cannot be realized to the benefit of all. As has been demonstrated in earlier chapters, the conflicts of interest that are the hallmark of the capitalist system make it very unlikely that the system will ever reach equilibrium and students of the system have to be taught economics on the basis of disequilibrium. The Islamic economic system, on the other hand, starts from equilibrium and moves along the upward trend of inter-temporal equilibrium. Where labor, money and capital are given due respect, conflicts between economic agents are removed. This can only be achieved via justice[12] within the regulatory framework of an Islamic GCS. Justice (equity) has dual characteristics. Equity puts everything in its proper place and guarantees equilibrium.[13] Justice, however hard to launch, removes hatred, jealousy and conflict and brings about love, cooperation, and prosperity.

UNDERLYING CONDITIONS FOR SUCCESS IN ISLAMIC FINANCE

Conventional banks accept deposits from the public and lend them to borrowers for investment or speculative purposes, their "profit" being the difference between interest paid to depositors and that collected from borrowers. With interest always being predetermined and the legal aspects of loans remaining unchanged in both borrowing and lending, this leaves the banks with the task of managing the optimal amount of "money" as their input and output. Where repayment of the principal and/or interest is delayed, a penalty which is higher than the original rate of interest is usually charged.

In the Islamic financial system, money does not earn any return without being legally converted into actual capital in collaboration with effort.[14] The proportionate returns for the investor, who provides

part of the actual capital to undertake an investment project, and the bank which, on behalf of the depositors, provides the remainder, depends upon several factors such as the priority of the project in terms of value added or increase in employment, the degree of risk involved, social interests, and the like. We will say more about these issues later.

In the interest-based conventional system, collateral is often required to guarantee the return of the principal and interest. This seems to be unproblematic as long as the value of the collateral exceeds that of the principal amount of the loan plus interest to cover any legal expenses in cases of default. In theory, though not necessarily in practice, neither the lender nor the borrower cares about where the money is spent. Trust and/or trustworthiness play no significant role as long as the above considerations are taken care of. In the extreme case of the bankruptcy of the borrower, liquidation of the collateral is used as a source of "trust" that the borrower's debt will be collected. The borrower strives to make more money than the amount borrowed. The lender does not care about the outcome of the borrower's activities, being concerned solely with the return of his money plus the interest charges. Each side is independent of the other. Yet this seeming positive is also a negative in that their economic activities have social consequences for the communities in which they live. These often manifest themselves in the form of an adverse impact on employment, higher prices, and the inequitable distribution of income and wealth.

Western welfare theorists such as Pareto have yet to provide evidence that society—that is, interactions among individuals in a community—does not exist. It is this failure to take account of such interactions that gives rise to conflicting interests. Until the well-being of all individuals is tied together, a humane economic system cannot exist. Separating individuals within a society requires a strong public sector to deal with the problems arising from the inevitable conflicts. Rules and regulations enforced by law are used mainly because codes of ethical conduct have not yet been internalized in all human actions. When such codes become internalized and integrated in the behavior of all economic agents, fewer rules and regulations will be required. At first glance, it may appear that the cost of bringing about such a society is prohibitively high. Nevertheless, the initial investment required to make such a system has to be viewed as a sort of investment in *social capital*, with extremely high returns extended into a long future. Furthermore, the fund has to be looked

at as a fixed cost whose average cost decreases as more morality is brought into the economic system. Evidence shows that the stronger the social capital the less costly it is to enforce law. It is through such a framework that individualistic behavior turns into cooperation. With the current worldwide decline in morality, what we need most is a society gradually moving toward the first approximation of utopia. We have not yet explored and experienced how good and honest individuals can be. We have not yet learned how to make use of everybody's "effort." We have a lot to learn from the idea that it is the wage rate that determines the productivity of the labor, not the other way round. We have not yet extended our knowledge beyond individualistic behavior. As Professor Gauthier has noted: "We are aware of each other as competitors... but we are less aware of each other as potential sources of mutual benefit... [T]he mutual unconcern presupposed by the [separated] market is an extreme form of self-bias" (Gauthier 1986: 113–56). If we realize that the source of satisfaction is not in fixed supply and construct our society on that basis, we will surely end up with a better one. Unrestricted individualistic behavior in a zero-sum game leads to greed and, eventually, harm to others. Social welfare in a utilitarian context might increase but at the expense of justice. A simple and broad definition of justice might be something along the lines of "do as you would be done by"—treating others in the same manner as we expect to be treated by them. However, there are two other aspects of justice required for this definition to become operational: justice means equality only between equals; and the equal treatment of unequals is injustice. Gorringe believes that "it is counter-intuitive to suggest that justice demands equality because an equal allocation between people would neglect considerations of what we deserve as well as what we need" (Gorringe 1999: 15). The literature provides ample evidence of market failure due, mainly, to the existence of externality in many cases. "Since externalities presuppose variable supply of means of satisfaction," Gauthier says "we may then say that the fundamental circumstances of justice, those features of the human situation that give rise to cooperation, are awareness of externalities in our environment, and awareness of self-bias in our character" (Gauthier 1986: 574).

Mutual human interactions produce externality, whether positive or negative. The Islamic economic system envisaged in this book provides an environment full of externalities, which take different forms in production, exchange and consumption but are all

rooted in the same logic; cooperation. The institution of the market, in its narrow sense, excludes cooperation but promotes coalition geared towards the maximization of profits. Gauthier puts it this way:

> Where the invisible hand fails to direct each person, mindful only of her own gain, to promote the benefit of all, cooperation provides a visible hand... cooperation [is] the rational response to market failure. Where market interaction, with its pre-established harmony between equilibrium and optimum, is beyond good and evil, and mutual interaction, in the presence of free-riders and parasites, degenerates into force and fraud, cooperative interaction is the domain of justice. (Ibid.: 571)

In the zero-sum game of capitalism, both the supply of satisfaction and dissatisfaction are implicitly assumed to be in fixed supply. In this system, as we become aware of each other as competitors for scarce resources and goods, it increases our costs, as is also the case in Marxism, where they suppose that more yams for one group means fewer left for the rest. Conversely, as we become aware of each other as potential cooperators in the production, exchange, finance, and consumption of goods and services, it enables us to realize new benefits which offer advantages unobtainable in nature. This is what we expect to happen in an increasing-sum game of an Islamic economic system. While this may be hard to achieve, it is not impossible, for as Gorringe reminds us: "The responsibility for the creation of a just society... which for Aristotle was the key human political task, is rendered impossible by the way the market operates... St. Augustine famously described states without justice as 'nothing but robber bands'" (Gorringe 1999: 18–19). To avoid repeating Pareto's explicit assumption of the non-existence of society, we need to realize that human interaction is the backdrop for justice. Without mutual interaction justice becomes irrelevant. This interaction is not produced in the market, a point emphasized by Gorringe:

> It is clear that any "community" produced by market "values" has little to do with Aristotle's search for a good life, or the communities which nourish virtue... If to live in a world without justice is to live in a world terrorized by Huns and Vandals—a Dark Age—if we believe that to be intolerable, then what should we do?... [P]erhaps

> a better alternative [to the construction of new forms of
> community] is to struggle for the reconstruction of justice
> and, as that implies, for an alternative view of the person
> and of community. (Ibid.: 19)

Mutual cooperation and interaction between individuals, between
individuals and firms, and between firms and firms guarantee justice
and pave the way for preventing the evil of conflict.

The fundamental gift of capitalism's zero-sum game and
self-interest is greed. Man is born with greed, but it assumes different
forms and has its limitations; it is not good in all aspects of life.[15]
Greed for wealth has brought us to the verge of disaster. We need
to rediscover and expand other human virtues to build life on solid
ground. We are not talking about utopia here. A valuable lesson
from Islam is that there must be a balance between virtue and
material life. Favoring one over the other is condemned in Islam.
This approach guarantees the good life, which by no means excludes
the good aspects of culture. A good life is inconceivable without the
practice of virtue and is described by Gorringe as "a moral life, a life
in which courage, temperance and magnanimity could flourish." But,
he warns, "Any of the vices could destroy the good life, but above
all... the greed that knows no limit... is the very opposite to justice"
(Gorringe 1999: 21). Capitalism's presumption of greed in every
individual citizen leads ultimately to the inequitable distribution of
income and wealth. Taken to its logical conclusion, the single-minded
pursuit of wealth would lead to the invasion of other countries and a
state of perpetual war.

The soul and body of man have inner needs which cannot be
satisfied through material things but little has been done to recognize
the way these needs can be satisfied. Rather, capitalism's global
influence has turned buying and consumption into rituals. Again,
Gorringe expresses it well:

> Being human involves accepting limits, as is well known
> to any artist, or musician, or any academic for that mat-
> ter. Nothing worthwhile is achievable without recognizing
> them, and indeed, we only exist within very specific limits.
> Money, however, because it is a mathematical quantity
> and not a sum of cows or corn, or silk or sand, seems
> to escape these limits. "The peculiarity of money... is
> that it knows no biological or ecological restrictions..."
> (Ibid.: 23)

Any search for justice in an Islamic economic system, then, has to concern itself with both man and money. In this respect, we would do well to look to ancient times when ethics, economics, philosophy and history were studied together. We will return to this later in the chapter.

According to Professor Galbraith: "The market has only one message for the business firm ... that is, the promise of more money... [T]he firm is thus fully subject to the authority of the market" (Galbraith 1983: 121). Of the logic of capitalism, Gorringe says that it is "not just about society, or the global economy, being driven by a group of exceptionally greedy individuals. On the contrary, the need to grow [that is, to earn more money] is part of the internal logic of capitalism, as necessary to it as petrol is to the combustion engine." He justly reminds us of our duty "to consider the impact of growth on our communities and our understanding of what it means to be human, on our cultures, and, the bottom line, on the environment" (Gorringe 1999: 24 and 29).

Our main purpose in this book is to see whether the alternative economic system being proposed here can provide solutions to the world's economic woes or whether we just have to bear them. This entails examining why conventional "economic science" cannot provide answers to some fundamental questions. In this latter regard, the comments of leading Western economists may prove instructive.

Professors Wiles and Routh were forthright in their assessment of the state of economics more than two decades ago:

> The economic establishment in the West is plainly in disarray. Faced with the failure of Keynesian and monetarist theories, economists have reached in one of the two ways: they try to identify their own deficiencies and search for ways to improve their understanding, or they seek escape in convoluted mathematical explanations of an imaginary world. Now an important element within the profession has begun to voice its dissatisfaction with contemporary theory. (Wiles and Routh 1984)

Ten years earlier, Theodore Roszak wrote in his introduction to E. F. Schumacher's *Small is Beautiful*:[16]

> ... in 1969 the Nobel Prize for economic science was established, an event that finally allows the economists to take their place beside the physicists, chemists, and

biologists. Justifying the new award on behalf of the Nobel Committee, Professor Erik Lundberg observed that "economic science has developed increasingly in the direction of a mathematical sophistication and statistical quantification of economic context. Its techniques of mathematical and statistical analysis, Lundberg explained, have "proved successful" and have left far behind "the vague, more literary type of economics" with which most laymen may be familiar.

Quoting from Schumacher, Roszak continued:

"The great majority of economists are still pursuing the absurd ideal of making their 'science' as scientific and precise as physics, as if there were no qualitative difference between mindless atoms and men made in the image of God." ... Again and again, Schumacher insists that economics as it is practiced today—whether it is socialist or capitalistic economics—is a "derived body of thought." It is derived from dubious, "meta-economic" preconceptions regarding man and nature that are never questioned, that dare not be questioned if economic science is to be the science it purports to be rather than (as it should be) a humanistic social wisdom that trusts to experienced intuition, plays by ear, and risks a moral exhortation or two. (Schumacher 1975: 8)

Individuals, highly-skilled and unskilled, have the potential to offer ideas for the betterment of their society, and yet the majority have been placed alongside land and machines as mere economic instruments. They have never been given the freedom and power to exercise their true roles, but are treated, rather, as if they have nothing better to do than acquire and spend. As Roszak put it:

When the available "spiritual space" is not filled with some other motivation, then it will eventually be filled with something lower—by the small, mean, calculating attitude to life which is rationalized in the economic calculus ... If this is so, then we need a nobler economics that is not afraid to discuss spirit and conscience, moral purpose and the meaning of life, an economics that aims to educate and elevate people, not merely to measure their low-grade behavior. (Ibid.)

In Schumacher's work, Roszak believed he had found such an approach. Indeed, Schumacher has proved to be an inspiration for this current book, which attempts to weave some of his ideas, along with some of those of Keynes, Friedman, Galbraith, and Stiglitz, into the context of Islamic teachings.

Schumacher plainly rejects the idea that "the problem of production has been solved" by asserting that it is "one of the most fateful errors of our age" (Ibid.: 13). To this, I would add the problem of exchange and consumption, as well. My proposal applies to rich and poor countries alike. The degree of development in material well-being is not the issue. The central issue, and our main concern, is the proper role of "man" in an economic system. Whatever the current state of economic theory, we may agree with Professor Hutchinson that the "crisis in economic theory may mark a very real kind of progress—a progress of ignorance, or of the realization of the real state of knowledge" (Hutchinson 1977: 1).

Any raising of the standard of living or of production, I would argue, is largely attributable to the massive strides taken in the high-tech and ICT fields, and not to any expansion in the frontiers of "economic science." But even with the wonderful progress made available by science and technology, the problem of poverty—the central issue of economics in countries rich and poor—has become more acute.

Social justice promotes well-being and brings with it joy, creativity and security. These are matters, Gorringe asserts, of "ethics and morality"—which have long been neglected in the attempt to make economics rank alongside the hard sciences. Gorringe is correct in his observation that most economists "have insisted that economics is a science and as such has nothing to do with values" (Gorringe 1999: 44). To illustrate his point, he quotes the illustrious English economist Lionel Robbins who, in *An Essay on the Nature and Significance of Economic Science* (1932), wrote the following: "Economics deals with ascertainable facts, ethics with valuations and obligations … Between the generalization of positive and normative[17] studies, there is a logical gulf which no ingenuity can disguise and no juxtaposition in time and space bridge over." Gorringe comments that "This distinction was specious from the start because the distinction between positive and normative science itself represents a value judgment … It is being increasingly recognized that what we need is not a new and better technical fix but a new ethics." (Ibid.)

Capitalism has always treated the efficiency–equity trade-off as if they are mutually exclusive issues, giving precedence to the former and neglecting the latter. Socialism made claims to reversing this, yet neither of the two systems has been able to maintain a balance between the two. Economists have taken the easy path, aligning themselves with one camp or the other, and have failed to recognize the possibility of there being a third economic system, one capable of reconciling the two. Both groups have been misdirected in their efforts to solve the basic economic problems.

We, as economists, have been stranded in the midst of unrealistic assumptions[18] and excessive use of advanced mathematics, which has kept us from realizing the real world. As Professor Hutchinson put it: "So long as economic theory and analysis is kept bottled up with mathematical rigor, in this vacuum, it can hardly be hoped that its contribution to the economic issues of the day will make progress" (see Wiles and Routh 1984: 8). Similar sentiments were expressed by Professor Michio Morishima:

> ... despite the fact that many economic theorists have thus been aware of the deficiencies and defects of their own models and have made efforts to improve them, why is it, then, that no one has yet succeeded in producing a model which is at all airworthy?... Over-advanced mathematics... has been over-used and its marginal productivity has decreased markedly, but the emergence of this phenomenon of a superfluity of mathematics stems not from the increase in the absolute quantity of mathematics at our disposal, but from the ever greater injection of mathematics into a fixed quantity of material... [I]n order for mathematical economists to maximize the rate of return of their own human capital, they have worked hard to produce quasi-scientific articles and succeeded in making the mountain higher and higher. We have in our discipline been led up the wrong path by the invisible hand of the demon, and because it takes both time and money to make an engine we are producing on a large scale airplanes which have no engine. (Cited in Wiles and Routh 1984: 51–73)

Ignoring Keynes' view that "no part of man's nature or his institutions must lie entirely outside his regard," our discipline has placed many important aspects of man's nature entirely outside the realm

of economics. Humanitarian aspects of life have—inadvertently or otherwise—been ignored, which has brought human society to the verge of collapse. In his exploration of the need for justice in economics, Gorringe quotes from Herman Daly's *Beyond Growth*:

> Sustainable development will require a change of heart, a renewal of the mind, and a healthy dose of repentance. These are all religious terms, and that is no coincidence because a change in the fundamental principles we live by is a change so deep that it is essentially religious, whether we call it that or not. (Gorringe 1999: 92)

Very little has been said about the merits of justice that could be incorporated in economic analyses. As should be abundantly clear by now, the most compatible pattern for sustained growth and development is the one that provides the highest level of justice, horizontally and vertically, both in income and wealth. We are talking here about the survival of the fittest. There is an urgent need to change to a system within which economic life is a means of elevating the spiritual life of mankind and achieving justice. It is through justice and a just system that creativity flourishes and peace of mind is maintained.

Understanding justice requires both thorough analysis and a different framework of thinking if it is to be practicable. Attempts have been made, but within a capitalist framework, which means that they are intrinsically faulty. An example of this was Philippe van Parijs' attempt to reconcile "justice" with profit maximization. In questioning the applicability of Gauthier's paper on justice (Gauthier 1986), van Parijs wrote:

> …just imagine a situation in which return to scale is such that A, B, and C (with equal endowments) produce 1 unit if one of them works on her own (surplus = 0), 7 units if two of them cooperate (surplus = 5), and 9 units if the three of them work together (surplus = 6). Gauthier's proposal implies that none of the three (interchangeable) cooperators can legitimately claim more than her marginal contribution to the surplus (which is 1 unit). But this would leave half of the total surplus unclaimed… when the product is the outcome of a complex interaction between natural resources, inherited technology, the legal and customary framework, and particular capital and labor inputs, it is hopeless to try to parcel

out the product according to contributions. (Farina *et.al*.
1996: 177)

But some modifications have to be made here. Firstly, the results
are within the marginal productivity theory framework, in which each
one of the three receives its marginal contribution. The remuneration
of factors of production within this framework comes from the
assumption of profit maximization. Further, profit maximization in
turn presupposes constant return to scale. If the assumption is that
A and B and C cooperate in a production function which exhibits
increasing returns to scale, as the example shows, a finite profit
maximum would not be reached. This is because the revenue, or just
output, will always increase more than "cost." In other words, profit
maximization is a much stronger assertion than cost minimization;
that is, the former places much stronger restrictions on the shape of the
production function than does cost minimization.[19] Secondly, he has
ignored, or failed to ask, the question of whether profit maximization,
and consequently marginal productivity theory, is in conformity with
justice. Recall that in the conventional method he has used efficient
production takes place in the second stage of the production function.
In this stage, not only is average productivity of labor [AP (L)]
almost always greater than marginal productivity of labor [MP (L)],
but it is also closer to justice to pay labor its "modified" $[AP(L)]^{20}$
which, unlike MP (L), is measurable and well-defined. Hence, profit
maximization is not compatible with justice. Even if we ignore this
point and let all factors of the production function receive their
"modified" average product, then there would be no unclaimed
surplus. Nevertheless, while our proposal is workable, there is no
doubt that the fair contribution of factors of production to the
social product is not exact, just as with any other proposals in the
conventional economic system. In this system, every proposal is as
good as any other. But some proposals, in a different context, are
better than others. What is important is to realize the fact that if there
is no social contribution, there would be no claim; some contribution
yields some claim. What we want is to get as close as possible to the
real contribution of all factors, especially of labor.

Islamic economics gives labor top priority in the claim to output. In
other words, labor is the "master" and all other factors of production
the "servants." Taking this principle into consideration gives "man"
the place he deserves and justice becomes meaningful. Bearing in mind
all that justice means and does not mean, it would be an injustice to

"man" or people to be put in the same rank as capital and land and remunerate them according to their marginal contributions. In the teaching of elementary mathematical microeconomics, the concept of marginal product, however inexact and not measurable it may be, does not pose a serious problem. But in advanced courses, especially in the context of cooperation[21] which brings with it justice, it becomes highly cumbersome.

The characteristics of our GCS, outlined earlier, combine with the notion that social responsibility is built on the understanding that there will always be inequality in individual power, talent aspirations and so on, and this raises economic life to a level where it becomes a means for spiritual elevation and brotherhood for the cause of justice.[22] Justice is beyond value. It is *the* most precious "public good" ever known to mankind. The more we contribute to maintain it, the better the quality of our lives. The notion of a "fair share" is thus related to our social commitment to cooperate and not to individualistic self-seeking behavior. In short, there is a strict connection between social commitment and fair share. To put it differently: it is the particular society that determines the fairness of each person's share. If scientists and inventors do not get their fair share from their societies, it is because they forgo pecuniary reward for reason(s) beyond the imaginations of an "economic man." This is evidence, too, that the market system is incapable of incorporating equity.

Another special feature of our GCS, in which cooperation is thoroughly integrated at all levels, is that it produces a kind of "environmental" technology. It is important to distinguish this from the kind of technology that is related to the production function and is treated as a given. Environmental technology has to do with both social structure and social values in an economy. The production-function technology in every economic system might exhibit increasing, constant, or decreasing returns to scale. It is, then, a matter of hardware. The environmental technology, which is directly related and affected by justice and ethics, is part of social capital. The mutual interaction between the increasing-sum game of our GCS and the environmental technology enhances the degree of increasing returns to scale. This special attribute can effectively compensate for any deficiencies in the technology of the production function. To be specific, the nature of the environmental technology is such that it upgrades the decreasing returns of the production function to, at least, overall constant returns to scale and the constant returns of production technology to overall increasing returns

to scale. Moreover, the overall state of technology in every economic system, Islamic or otherwise, is the product of both technologies. It is easy to find examples in some countries where poor environmental technology adversely affects the production function technology; from increasing returns to constant returns and from constant returns to decreasing returns. The reverse is also true. Nevertheless, we believe that the new type of technology in our GCS is reinforced by the goals of laborers, producers, and consumers being tied up together, the outcome of which is social justice. Since the new type of technology has no physical boundaries it is capable of compensating for any other deficiencies. This, then, will guarantee the maximum social welfare compatible with full employment in an Islamic system. The mutual unconcern that characterizes capitalism creates in each person an actual preference for dominating his fellows.[23] The so-called competition in this system results in conflicts of interest which, in turn, are counter-cooperative and counterproductive.

Every school of economic thought brings with it an ideology. Islamic economics is no exception. Where both capitalism and socialism display the deficiencies outlined above, a properly administered Islamic system is able to achieve a balance between the three components. It has another unique and absolute advantage in that it gives Allah (SWT) the central role and the veto power over all. This is *the* great departure from the other two systems which deserves special attention.

The Islamic mind is raised in a different normative context from that of a Western economist. Its main concern is with beliefs, religion, philosophy, history, culture, and the like, and thus produces different schools of economic thought. In order to differentiate the Islamic school of economic thought from other schools, we need to briefly mention the role and goal of man in an Islamic setting.

THE PHILOSOPHICAL FOUNDATIONS OF THE PLACE AND THE ULTIMATE GOAL OF MAN

The neoclassical economists believed that they had discovered a truly scientific method of argument, embellished by mathematics. They purported to diminish the moral problem by showing that if every individual pursues his own interests, the maximum benefit is attained for all. This view somewhat ignored society, not as a sum of individuals, but as a totality of social interests. However, it is

well understood that individual differences naturally produce conflicts between self-interest and social interest. Hence, a moral code becomes necessary for any kind of society. Economics, being partly a vehicle for the ruling ideology and partly a method of scientific investigation, also has conflicts that need to be resolved.

The ideology behind self-interest is individualism, in a sense that society is of no relevance as long as each person pursues his own interest. The relevant question here is whether individuals are the best judges of their own welfare and are able to choose what is best for them and the society of which they are members. Even if they do realize what is best for them, it does not necessarily mean that this is also best for society. Every society is run in accordance with its own value judgments; without them, society becomes meaningless. For Vilfredo Pareto, there was no society above and beyond individuals; thus, value-judgments need only be concerned with the welfare of individuals, and nothing else. Much of modern welfare economics is based on Pareto's value judgments. Surprisingly, this part of economics is basically constructed on the notions of "justice" and the equitable distribution of income and wealth.

According to Professor Nath, the "Paretian optimum ignores the fact that the distribution of incomes is relevant to social policy decisions. After all, even according to Pareto-type welfare function, all Paretian optima are not equally desirable; nor is a Paretian optimum better than each and every non-optimal allocation" (Nath 1976: 89). Based upon Pareto efficiency, then, justice becomes a man-made code which changes through time and place. This necessitates that "justice" be defined as an absolute truth that cannot be changed. This absolute justice, we Muslims believe, comes from Divine guidelines. Where this is properly done, there can be no conflict between self and social interests. Hence, in Islamic economics we have both wisdom and Divine Rules. In circumstances in which wisdom and Divine Rules conflict, Divine Rules have the veto power. This power stems from the generality of the Divine Rules over the particularity of wisdom.

But why follow Divine Rules in the first place? Quranic teachings tell us that we are supposed to please God and the best (though not always the easiest) way to do this is to follow His advice and guidelines, as opposed to man-made rules, particularly when they are in conflict with His. In other words, wisdom is a subset of Divine Rules.

We are further taught that both permitted (*Halal*) and prohibited (*Haram*) actions are based on justice. Obviously, justice goes parallel with society in that without society there can be no justice.

In order to fully understand where man stands within the scope of traditional economics, it is instructive to see how the system is linked to the past. There is much to be learned about the history of economics by examining why the focus of intellectual inquiry was on ethics and theology rather than on economics *qua* economics. It was not until the eighteenth century that speculation about economic phenomena began to emerge as economic analysis rather than economic thought.

The view of the Churchmen, like that of Aristotle before them, was that it is essential that human affairs be conducted in accordance with the principles of distributive and commutative justice. Distributive justice is concerned with the criteria for allocating honors, income, and wealth to particular persons or classes. Commutative justice is concerned with equity, or fairness, in transactions among individuals.

While modern economists are not interested in such theological considerations, the *Summa Theologica* of Saint Thomas Aquinas (1225–74) survives as a masterwork of economics because it confronts the co-existence of ethical and economic questions in human behavior as a seminal issue.

In *Summa Theologica*, Aquinas devoted himself to the task of providing guidance for Christian behavior under circumstances that arose as a result of expanding commercial activities. In contrast with modern economics, which seeks to explain economic phenomena, Aquinas and the schoolmen sought to lay down rules of conduct for Christian behavior and salvation.

Modern philosophy, the Protestant Reformation and modern science, which together brought about a wholly new intellectual climate, had a common origin: the thesis that human reason, as distinct from divine revelation, was sufficient to discover truth. This thesis destroyed the nexus between faith and reason, and thus between theology and philosophy—a nexus forged by the Scholastics of the Middle Ages. To Aquinas, knowledge was the product not only of reason (philosophy) but also of revelation (theology). All branches of learning (logic, ethics, politics and economics) were welded together into one great whole through theology. The union between philosophy and theology was, however, far from permanent, and over a period of centuries, it was challenged from within the church itself. The consequence of the eventual divorce of reason from faith was secularism. In essence, this so-called intellectual revolution asserted the primacy of the individual as capable of reason and in possession of an individual will. These principles became fundamental to the spiritual revolution inherent in the Protestant Reformation. The Renaissance and the Reformation

gave birth to the idea of the "masterless man," the autonomous individual created in the image of God and therefore inherently good, but individually responsible for salvation. Only one essential prerequisite of capitalism at this time was absent: an ethical standard that was compatible with the accumulation of wealth.

In the sixteenth century, Martin Luther and the reform movements of John Calvin and John Knox laid the foundation for ideas that later found clear expression in Max Weber's *The Protestant Ethic and the Spirit of Capitalism* (1904/05). Protestantism considered "acquisition a virtue rather than a sin" and merchants, as Rima points out, came to be regarded "as pillars of the church and community. Their pursuit of gain became as integral a part of Protestant ethics as the autonomy of the individual... The Protestant emphasis on frugality served the capitalist system well for it stimulated thrift and capital accumulation" (Rima 1967: 27–9).

The new intellectualism during the century of the Enlightenment brought with it a quest for new knowledge, new techniques for its acquisition, and new bases for its evaluation.

Just as Isaac Newton (1642–1727) sought to discover the regularities governing the behavior of the physical universe and give them expression in a system of natural laws, the Physiocrats of France and the Scottish moral philosophers (among them David Hume, Franches Hutcheson and Adam Smith) sought to identify the natural laws ruling the behavior of society. Developments in the natural sciences, physics and, in particular, astronomy were influential in establishing the point of view and methodology for studying the behavior of the economic system.

Smith dealt at length with the ethical values of life in *The Theory of Moral Sentiments* (1759), before turning his attention to subjects that today constitute the major concern of economic enquiry; that is, the self-interested behavior of people engaged in market activity. Self-interest was seen as directing every aspect of human behavior and activity. Standing at the center of his system were individuals who followed their own interests while promoting the welfare of society as a whole, for such is the nature of natural order. The end result was that a beneficent social order emerged as an unintended consequence of individual actions.

The idea of self-interest has traditionally been taken to the extreme, culminating in the idea that essence belongs to the individual and that nothing exists as society. This leads to a position whereby self-interest takes the central role to the neglect of social interest. Individuals were

promoted to a position of being "masterless," while the emphasis on self-interest converted the individual into a "machine of happiness" which derives happiness solely from consumption. Individual desire eventually led the masterless man to become master of the "man." His desires became the new master, who had to be served endlessly. Western economists more than likely intended to free man from "slavery" rather than to degrade the individual but the end result was, nevertheless, to relocate "man" to a much lower level.

The dominant idea described above eventually transformed man as a social animal into a being with no desire to interact with others. The social welfare function in this system, [SW(C)], is the sum of each individual's well-being:

$$SW(C) = \sum U[i]; \ i = 1, 2, 3...m \qquad (5\text{-}1)$$

The Pareto principle says that if U[i] rises, then SW(C) rises, no matter whose well-being has been raised. This implies that individuals have no sense of empathy, sympathy, jealously, hatred and love, despite a wealth of evidence pointing to the contrary. In such an environment where there is no externality, negative or positive, no increasing return and perfect information, pure competition makes sense. Further, the market mechanism works and efficiency is obtained. Nevertheless, it should be noted that optimum conditions and perfect competition have been argued to be different subjects. Professor Mishan, for example, asserted that perfect competition is neither a necessary nor sufficient condition for meeting the optimum conditions (Mishan 1957: 210), and Nath emphasized that the propositions about the relations between a Paretian optimum and the perfectly competitive model apply only when the system is at equilibrium (Nath 1976: 31).

The view of man and his behavior on earth outlined above is very different from the Islamic view, in which, rather than serving their own interests, individuals serve "The Highest Master of All": Allah (SWT).

In human society, interaction among individuals is inevitable; at least in the sense that people have to meet the exigencies of the general condition of living under one roof. When it comes to consumption in such a condition—that is, in an imaginary situation where a man and his wife are under one roof—interaction might come to zero. The inevitable reciprocal marginal externalities are necessarily reduced to the degree of freedom of each individual in observing the

freedom of others. In some instances, interaction produces positive externalities, and in others, negative externalities. It is the total sum of the interactions of individual behavior, in a Venn diagram, that we call "society." This led Nath to conclude that a Paretian optimum is not necessarily superior to any non-optimum (Ibid.: 22).

The formulation of the social-welfare function is not independent from ethical considerations, and some have argued that *only* ethical considerations can determine the particular functional relationship between the economic welfare of a society and the individual ordinal indicators.[25]

In conventional economics, the place of man in society is ambiguous in that it (society) works as an instrument whose ultimate goal is consumption. Islamic economics is designed to give man the dignity and status he deserves. He is given the potential to enhance his spiritual life in parallel with his physical life. Islam provides rules and regulations giving him the option to choose between vice and virtue. Without this option, there is no way for spiritual elevation. Unlike in the capitalist system, comfort and happiness come from both material and spiritual elevation.

Islam teaches us that life is a test: "Blessed be He... who created death and life, that He might try you which of you is fairest in work" (*Quran* 67:2). Allah (SWT) endowed people differently and in many ways: in mental or physical ability, in material and social environment, in power, knowledge, wealth, and so on. Some of these things an individual is born with; some are acquired by effort, and still others come from circumstance; but each individual is accountable to Allah (SWT) for all the ways in which he has been preferred over others. "It is He who has appointed you vice-regents in the earth, and raised some of you in rank above others, that He may try you in what He has given you..." (*Quran* 6:165). On the Day of Judgment, each individual will be held accountable for the way he lived his life, how he used his knowledge, how he spent his wealth.

It has been said that nothing a man uses (as a consumer or as a producer) is morally free, even if it is economically free.[26] It must be paid for by being thankful to its Creator and by sharing some of its fruits with other rightful claimants.

Faced with the basic philosophical questions of what man is and what his duties are on earth, the task of constructing an economic system becomes easy. Attempts have been made by Western scholars and thinkers to find answers to these questions but to no avail. Logically, a person cannot judge what man is on the grounds that

he himself is a member of the same set, and his judgment is almost invariably biased. Muslims have to avoid such a misleading practice. Only the Creator knows in absolute terms who we are and why He has created us.

For Muslims, the ultimate goal of man is to please Allah (SWT) by following His orders as well as His guidelines and recommendations. Man, as vice-regent of Allah (SWT) on earth, is responsible to society as well as to himself. He should understand the reciprocity of actions between individuals and society and, at every stage of life, he has an obligation to all societies and people who have made contributions to the present state of knowledge and technology.

The doctrine of vice-regency indicates that wealth is not an end in itself. Material and spiritual comfort work as the wings of a bird to take him to the destined place. The doctrine further implies that wealth exists to serve others and it is this balance between material and spiritual comfort that is one of the most valuable lessons to be learnt from Islam.

I am in complete agreement with the sentiments expressed by Professor El-Ghazali that:

> At the same time, the responsibility of Vice-regency demands that people work and toil unceasingly to invest this wealth so that it will continue to increase until the Day of Judgment. The work expected of Man is "the good work," the work which purifies the soul, upholds morality, increases charity, deepens piety, and protects faith, body, mind, property, and progeny. (El-Ghazali 1994: 46–7)

The foregoing philosophical foundation of Islam, however brief, seems to have paved the way to construct the social-welfare function, (SW), accordingly. In the orthodox economic system, the utilities of individuals are independent of one another, that is:

$$U[i] = f[X\ (i)]; \quad X = [x\ (1), x\ (2), x\ (3)...x\ (n)] \qquad (5\text{-}2)$$

and

$$\frac{\partial\ U[i]}{\partial\ U[j]} = 0; \ i \neq j \ \text{ for } \ i = 1, 2, 3... \ i, \ j...m \qquad (5\text{-}3)$$

where X is the vector of commodities and i and j refer to individuals. The type of utility function in Islam for the same individuals might

look like this:

$$\frac{\partial\ U[i]}{\partial\ U[j]} > 0 \tag{5-4}$$

In other words, the utilities of Muslims are interdependent; hence the Islamic social-welfare function, SW (I), might resemble:

$$SW\ (I) = \sum U[i] + \sum\ U[i]\ U[j] \tag{5-5}$$

The assumption of the interaction between individuals i and j exhibiting positive externality in consumption, $\partial U[i]\ /\ \partial U[j] > 0$, implies that the Islamic social-welfare function, SW(i), is higher than that for the corresponding society, with all other characteristics assumed being the same, in capitalism, SW(c):

$$SW\ (I) > SW(C) \tag{5-6}$$

Equation (5-1) is a zero-sum game and equation (5-4) is an increasing-sum game.

The implication of this analysis is that in a capitalist society comprising m individuals, if the individuals convert to Islam and practice Islamic injunctions and recommendations, the social welfare increases and people, individually and collectively, feel happier. This result can be obtained without having to resort to war, invasion or exploitation. This result is also the outcome of changing the "rational man" in capitalism to the "ethical man" in Islam, where the latter unceasingly observes a balance between his own interests and those of society without having to sacrifice one for the other.

Such a system might take decades or centuries to eventuate and, at first blush, might seem like a utopian whim of Muslim scholars. However, the Islamic economic system is constructed out of history, past and present. It takes account of where we have been and shows where we might be going. It is going to replace a system which has failed to accomplish its mission. This claim reminds us of the statement that it takes a theory to kill a theory.

Those who think that this is impossible should reflect on the changes that have taken place over, say, the last 250 years and ask themselves whether if they had been living in those times, they could ever have envisaged the world as it is today.

The message of Allah (SWT) is not, of course, restricted to Muslims. Everything in the universe is under His absolute possession and

control. Whatever we do according to His mandates and guidelines is for our own sake. He does not need to see us observing His rules and recommendations. This addresses both questions: how ethics and morality will evolve and whether it will solve the "many objectionable features of capitalism" that Keynes spoke about. In any man-made economic system, there will always be imperfections unless we follow the rules and guidelines of Allah (SWT) because only He is perfect.

ISLAMIC MODES OF FINANCE

Before we look at the kinds of contracts that are *Shariah* compliant, a word of caution about the code of ethics appropriate to the application of Islamic finance is necessary. This is a matter of having a process of checks and balances in place before such contracts are effected. The collateral required in the conventional system is itself a sort of check and balance. In the Islamic system, the project for which finance is required and/or the equipment/material involved, which bring with them trust, will themselves serve as valuable collateral.

Here, the bank's partner has to have specific qualifications before any partnership can be approved. These qualifications are not wealth-based but, rather, revolve around social commitment. Social commitment guarantees the health of the contract; that is, it ensures the true reporting of profits and of all transactions by certified accountants and tax authorities. The transparency of records, and the random and constant monitoring of them, ensures symmetric information and avoids moral hazard, both for depositors and society at large.

The resources made available to an Islamic bank belong mostly to depositors and the bank puts these resources into different contracts in its capacity as attorney and trustee of the people. The code of ethics demands of the bank that it exercise the utmost care and vigilance in the proper utilization of these resources and the minimization of likely dangers with an eye to the social well-being.

The prerequisite qualifications for those wishing to apply for finance from an Islamic bank are as follows:[27]

Trust and Dependability[28]

The Islamic bank must ensure that the applicant enjoys a good reputation for being a dependable partner and will look for such things as trustworthiness, social standing, order and discipline, conduct, extent

of commitment to meeting responsibilities, character, social behavior, faith, moral piety, educational background, spiritual devotion, and the like.

Technical Qualification and Suitability

What the bank needs to study in this respect is the potential for the continuity of economic activities and the applicant's technical and managerial capabilities. In reality, technical ability, managerial caliber, and professional background should speak for themselves. The injection of money in the form of capital will be fruitless if management techniques, technical, administrative and financial systems, and internal controls are lacking.

From the outset, the bank has to act as a friend and adviser to applicants and should refrain from giving them a financial burden beyond their capacity to deal with. Otherwise, the bank itself becomes part of the problem because it has a responsibility to both the applicant and to society at large. This positions the bank as an integral part of the economic system, not as a parasite in the conventional system.

Intellectual and Financial Capability

As we will see later, the character and inbuilt mechanisms of our Islamic bank are such as to be automatically answerable for the load of the finance and ownership transfer whenever the occasion arises. It is vital, then, that the character and reasons for the requested finance be thoroughly investigated along with the position and financial standing of the applicant so that the finance may be made available on the basis of the firm's real needs and in proportion to its financial and technical capacities to ensure that the bank's share of profit does not suffer. The possibility of abnormal economic conditions or unforeseen external problems arising for the applicant should not be overlooked either.

Collecting sufficient information provides assurance and peace of mind for the bank, for its depositors and for its clients alike. The bank will look for flexibility in the financial structure of the potential partner, which is an indication that the partner is able to survive in times of economic turmoil.

The fact that the Islamic bank has wide-ranging responsibilities places it at the opposite end of the spectrum to the conventional bank, which feels no sense of responsibility toward a firm facing

external problems. In such circumstances, the conventional bank acts as a parasite and the only way it can help firms experiencing severe difficulties is to lend them even more, at even higher rates of interest, which in turn simply complicates the situation even more.

Generally, our banks need to know the share of the capital the applicant is prepared to invest in the specific project. In normal circumstances, the greater the applicant's stake, the more motivated he will be to ensure the project's success. This also leaves more of the bank's funds available to other potential applicants. When an applicant has insufficient funds to invest in the proposed project, the bank will be more reluctant to enter into an agreement that could threaten the funds entrusted to it by depositors.

In cases where a project is considered useful, necessary and justified from an overall economic point of view and is both self-activating and self-supporting, banks might, with the endorsement of government authorities, commit the highest share of the capital required.

Collateral

In the conventional banking system, "collateral" is usually taken to mean the pledge of an acceptable (generally solid and redeemable) asset as security for a loan or credit. But in the different philosophical setting of Islam, where people matter and man plays the central role, a different value system is practiced. Here, "collateral" is understood to stand for attainment of certainty and security based on the solid foundation of the transaction and good performance of the under-takings to minimize the risk to return on the capital. In this context, the word "collateral" is generally replaced by the phrase "sufficient security." The security needed here has much to do with proper uti-lization of the code of ethics combined with the intellectual property of the applicant—which has rarely, if ever, been used before. As we saw in Chapter 1, the shareholders in a *Musharakah* contract never ask for collateral from the issuing firm since each of the shareholders has a proportionate claim on all assets of the firm. Thus, there is mutual trust between shareholders and firm. Installment sales provide another example, where the subject property itself is used as collateral until the bank's resources have been fully redeemed. As we also saw earlier, a *Qard-ul Hassan* contract is basically a loan, but payment is made without taking any collateral. In brief, any action taken by an Islamic bank is taken because it is considered to be the trustee agent or advocate for its depositors.

In any economic downturn, every participant in our GCS has to bear a share of any losses; that is to say, everybody is made responsible for the rest of the community. Similarly, in years of prosperity, everyone enjoys the benefits of cooperation in proportion to their respective contributions to the social product. It is worth reiterating the fact that an Islamic bank exerts itself to the full to maximize the social welfare and maintain equity through cooperation. The GCS is composed of numerous atomistic cooperatives whose goals are the same. This, then, leads inevitably to a position outlined by Professor Gauthier as follows:

> Since cooperative choice assumes a fixed group of coopera-
> tors, the proposal that the sum of individual [joint product]
> be maximized is equivalent to the proposal that the aver-
> age of individual [joint product] be maximized ... and if the
> [social] welfare of an outcome is positively related to the
> individual [joint product], then welfare must be a weighted
> average of those [joint products]. (Gauthier 1986: 584)

As we have seen, the best and the most reliable "collateral" is the intellectual property of the applicant who makes a proposal for a PLS contract. Sufficient inbuilt security in the form of trust, combined with intellectual property and technical ability, renders the policy of the conventional system irrelevant.

Unlike conventional banks, an Islamic bank performs functions that are integrated into the whole economic system and thus is inseparable from the real sector. In essence, it works as the development engine of the economy. It also performs as an investment-development bank whose functions vary, as we have seen, from the simple to the most complicated. Profit maximization is not the goal. Profit comes after an economy enters into a healthy stage. We demonstrated earlier how full employment in this system is guaranteed through the abolition of interest and the absolute absence of speculation of any sort. The transmission mechanism for this is the institution of the Islamic bank. Its function makes efficiency and equity complementary, rather than conflicting, objectives.

ISLAMIC BANK STRUCTURE

Having examined the philosophical underpinnings of the Islamic bank, it remains now to provide a brief outline of its structure, comprising the following units or departments:[29]

Shariah Committee

Since earning money by lending money on interest is strictly prohibited in Islam, while employing money through its legal composition in permitted transactions is not, it is obviously necessary that there is a means of certifying that the Islamic bank has used the deposit funds at its disposal in a *Shariah*-compliant manner. This is the role of the *Shariah* Committee or Board.

The members of the committee are Islamic scholars well versed in Islamic jurisprudence. In important and delicate matters of economic theory, they are advised by reputable economists who understand both the complexities of *Riba* and the insidious manner in which it can creep into economic transactions, and the requirements of *Shariah*.

The importance of the functions of this committee cannot be exaggerated. Any deviation from, or unintended violation of, *Shariah* puts the whole system in jeopardy. Allowing even a tiny bit of interest into the system is akin to having a cancer cell in the body. The health of an economy is guaranteed if the decisions of the committee are perfectly in compliance with *Shariah*.

Given the importance of the functions of this committee, each member has to have a good command of the *Quran* and the *Hadith*, a strong grasp of the history of the early Islamic era and be highly skilled in both *Fiqh* (Islamic jurisprudence) and economics.[30]

Contract Experts

Understanding Islamic contracts and their potential to help enterprises to finance specific investment projects is not an easy task. Just as medicine has its general practitioners and its specialists, the Islamic bank has two categories of personnel working on the contractual side of its operations. One has a thorough overall understanding, while the other has a detailed knowledge of specific contract(s). Both have a thorough grounding in economics, law, and finance, with knowledge of cost-benefit analysis, financing methods, and Islamic jurisprudence with respect to contracts.

The bank's clients generally fall into two categories: new enterprises to be established through, say, a *Musharakah* contract; and existing firms which plan to expand their operations. It is this second type which generally needs expert advice at both general and specialized levels. It may be the case that more than one contract is required and the bank personnel have to be able to recommend appropriate

contracts which not only suit the client's specific needs but also fit in with the general economic conditions of the country. For example, if employment is the government's focus, the capital-labor ratio (K/L) obviously plays an important role. If a low general level of prices is its target, then efficiency and higher production have to be the objectives. In cases where poverty alleviation in a region is a problem, then the variable alpha (α), introduced in earlier chapters, could be used efficiently to encourage investment.[31]

Project Appraisal

The bank will make the majority of its decisions on which projects to pursue based on information provided to them by independent researchers from universities or specialist research firms. From time to time, however, it may be necessary for a particular bank to have its own project appraisal department (PAD) to endorse the technical information provided by the independent experts to ensure that their reports are comprehensive and adequate to the task at hand.

The conventional method for appraising an investment project assumes that the goal of a firm is to maximize shareholders' wealth (Lumby 1983: 5), which implies that this is the *only* way in which management decisions can benefit owners. The Islamic framework is designed in such a way that all economic agents play their respective roles in an orchestrated manner toward achieving the common goal of maximizing the social-welfare function. It is instructive to repeat Gauthier's words quoted earlier: "[I]f the welfare of an outcome is positively related to the individual utilities of that outcome [as is the case in this new setting], then [social] welfare must be a weighted average of those utilities." Replacing the "weighted average of those utilities" would be the weighted average of the internal rate of return (IRR). The new approach introduces a new attitude toward economic analysis in the project-appraisal process.

The only plausible approach to choosing from among different investment projects is to use a "discounting" technique. It seems, though, that most of the methods used in industry are simple non-discounting methods, the most important of which are: "(a) the pay-back method; (b) the peak-profit method; (c) the average-profit method" (Hawkins and Pearce 1971: 15–18).

Of the discounting techniques, the most important are Net Present Value (NPV) and IRR. According to Hawkins and Pearce, "NPV is generally accepted by economists as being theoretically unassailable

in that, if one wishes to maximize profits, the use of NPV always finds the correct collection of projects" (Ibid.: 29). It has yet to be checked whether "unassailability" still holds if the objective function changes from profit maximization to the maximization of social welfare. "By contrast," they say, "there is a certain amount of controversy about the acceptability of IRR for general use in investment appraisal. However, most of the problems with IRR can now be overcome by making fairly simple modifications to the method." Incremental and/or extended forms of IRR can overcome any serious problem. Extended IRR can be used not only to eliminate multiple-roots problems but also for projects which involve negative capital.[32]

The important point to note here is that the NPV method ultimately uses the rate of interest which, as we have shown, is alien to the real sector and thus logically irrelevant and exogenous for project appraisal, even in the capitalist system. The IRRs of the projects, on the other hand, are totally endogenous to the system and can be ranked, as desired. After a certain point, they will, in effect, compete with each other and can safely be used even in the conventional system. (There may be circumstances in which the social-welfare objective rules out the selection of the project with the highest IRR, to which we shall return in coming chapters.) It should be noted, too, that "the IRR uses the *average* or long-run rate of return for weighting whilst the NPV uses the *marginal* or period-by-period rate of interest" (Lumby 1983: 60). Also note that since all investment projects are interdependent, choosing one project with an IRR different from another project changes the whole spectrum of IRR in the economy. This gives IRR another advantage over the NPV method.

Monitoring

In the conventional banking system, where interest-based loans are secured by valuable collateral, there seems to be no monitoring and no costs involved. Nevertheless, the harm that is inflicted on the system from this lack of monitoring is immense. Much, if not all, of the borrowed money might be used for speculative purposes, with all their adverse effects on the economy in the form of unemployment and inflation. The monitoring costs involved in the Islamic system are more than offset by the savings that come with the elimination of interest.

Within the Islamic GCS, each of the many cooperative units of which it is composed takes responsibility for the check-and-balance function within the unit. This sense of responsibility comes from

having a direct share in the outcome of any project in which the individual or unit is involved and appreciably reduces the bank's monitoring costs. While managing such a system is complicated, the social benefits overshadow the costs, and contribute toward overcoming capitalism's many objectionable features.

Market Research

The success of any joint-investment venture is dependent not only on the circumstances existing at the time of signing the contract but also on the projected future course of events. The overall expected rate of profit and the bank's share in it depend heavily on how carefully these circumstances are studied. The more sophisticated the study, the more confidence the bank can have on these matters. However, risk is intrinsically interwoven with investment; the higher the risk, the higher the return. Investors quite often prefer less-risky investments with lower expected returns. The standard deviation of the return probability distribution plays an important role as a measure of risk. Nevertheless, there are some cases where risk is high and the project is still given priority over others. In such circumstances, as well as in low-risk cases, the Islamic bank is ready to compensate for this through the alpha (α) parameter. The bank needs a market research unit to judge a project both for itself and in relation to the economy as a whole. There may be cases where the project itself is justified but where the overall economic circumstances may lead to its ultimate failure. In such cases, the full burden of that failure would fall on the bank's shoulders, on the assumption that Islamic banks are publicly owned and the investors should not be penalized for mishaps beyond their control. This is perfectly in line with our understanding that the bank performs as a shock-absorber. These shocks are external to the performance of a project. Small banks whose financial resources do not stretch to having their own research unit can join with others on a syndicated basis where each can have a share in the joint-research unit.

Transparency of Reports

As mentioned earlier, loyalty plays a much more important role in the Islamic banking system than it does in its conventional counterpart. Where clients are investment partners, their loyalty, often reflected in their records, becomes an important issue, not only for the bank's success or failure but also the negative externality it exerts, as misconduct, on the whole society. Clients' past records—their past behavior

as to tax and any other liabilities, their record of transparency, the extent to which they have fulfilled their obligations, their integrity, their compliance with social ethics, and the like—could all be used as indicators of their attitude toward the social code of conduct to which the Islamic bank subscribes and is obliged to uphold. What we are proposing here is a Code of Economic Ethics (CEE)[33] by which clients and potential partners can be ranked. This would also provide a competitive environment for the degree of social commitment for all potential partners. A client who ranks highly would have the advantage of becoming a partner of the bank; those who do not would be rejected as potential partners. This does not mean that potentially bad clients have to be driven out of the country because of their past misconduct. The purpose, rather, is to teach them how they can achieve the required standards (details of which would, of course, be made available to the public).

Diagnostic Clinic

It is unrealistic to expect all investment projects to achieve 100 percent success and fulfill all their commitments. While the public sector in any country is essentially responsible for providing a suitable and healthy environment which, as far as possible, prevents fluctuations and uncertainty, the complete removal of risk is not impossible. To reduce risk even further the Islamic banks, in cooperation with each other, should establish what I call an economic diagnosis clinic (EDC). In the event of a partner-firm experiencing difficulties beyond its control, the role of the EDC would be to conduct research into different aspects of the firm's activities (technical, financial, organizational, personnel and other) with a view to providing the banks with advice on how to prevent such problems occurring in the future.

As part of this service and as another means of taking advantage of the synergies that cooperation generates, banks could contribute toward the establishment of laboratories (mechanical, chemical, software, and so on) for a range of partner-firms which cannot afford to have their own. The resulting economies of scale would ensure that the services provided for these firms would be much lower than otherwise, particularly where public grants are available.

Such diagnostic services would make it easier for the banks to distinguish efficient from inefficient firms. Having the results of such services available to them (in the form of supervision and reports) would give them and their partners greater confidence of success.

Outsourcing Practice

Not all the functions necessary to guarantee the success of Islamic banks need be performed within the banks themselves. In fact, both to keep the government as small as possible and to encourage efficient private-sector participation in economic activity, it is highly recommended that most of these functions be outsourced. This will also promote transparency and enable all members of the community to see the results of their orchestrated cooperation. History shows that secrecy only paves the way for speculation and rumor and leads to a gradual loss of confidence in state activities.

Search, Promote, Develop

The conventional banks have almost always played the role of master in a master–servant game, creating special conditions (including artificial shortages of money) to give themselves control over the disadvantaged in society. The Islamic banking system has to be framed in a totally different way, such that such artificial shortages cannot happen. Whenever and wherever there is a chance to finance a justified project, the Islamic bank has to be there. Indeed, the bank's experts should seek out and develop such opportunities, and bring them to the bank for further consideration. No economic problem should be beyond their purview and attempts to find a solution. The banks will provide information to interested parties and potential partners and thus stimulate demand. This will also give the banking personnel the opportunity to develop expertise which could be used to advantage in their careers.

Academic Links

Academics develop new frontiers of human knowledge. Research and teaching is one thing but putting their knowledge into practice is something else. Academics from across a wide spectrum of disciplines who have practical experience in their respective fields have a distinct advantage in that they bring the problems encountered in industry back into classroom for further study. In this way, both industry and the universities can apply their different approaches to problems, to the benefit of both. Being involved with real-world problems improves the quality of both research and teaching, and keeps the academics from making unrealistic assumptions in their writings. The trilateral cooperation between academics, the bank and industry will produce a synergy whose fruits benefit all members of society.

The desirable environment produced in this way makes it possible for the potentialities scattered around different regions of a country to be turned into actualities. Knowledge is treated as a public good available to everyone who has any interest in using it. A system that manages to bring opportunities to all its inhabitants comes closer to what philosophers of justice have in mind.

Continuous Training

A healthy, dynamic institution is one that provides continuous training for its personnel. Training brings new blood to the institution, especially in fast-growing areas of life made possible by advances in information and communication technology. Such advances provide goods and services at a lower price which, in turn, increases the utility of consumers. Keeping up with the rapid developments in this area over the past two decades has made it necessary for all industries, banking included, to make continuous training a top priority. This process can be aided by making proper use of the expertise and experience of academics in assisting bank personnel to develop the new products necessary for the survival of the banking industry in an ever-changing world.

Before we conclude this section, some points deserve further attention:

a. For all units proposed here, a proper organizational chart has to be constructed and the qualifications of individuals to fill the designated roles have to be determined. This is, of course, beyond the scope of the present book.

b. Cooperation between individuals and units should be undertaken responsibly. Each unit needs a responsible person to guide the process. The total fruits of cooperation on a large scale have rarely been enjoyed and there is little experience to fall back on. This will take time but it will come.

c. A comprehensive software program is needed to incorporate all elements necessary to make the Islamic banking happen, particularly when different Islamic contracts, each with its own peculiarities, come into play across different regions.

ISLAMIC CONTRACTS[34]

To become an integral part of an economic system, the Islamic banks need a variety of contracts to meet the requirements of every sector

of the economy—industry, mining, construction and agriculture, as well as commerce and services—and it is the job of bank personnel to find the optimum solution for each client.

None of the Islamic contracts must have, or give the impression of having, any involvement with interest and it is the responsibility of the bank's economists and *Shariah* scholars to ensure that all is well in this regard. Recognition of *Riba*-involvement in a contract is the most delicate of tasks, and lies far beyond the scope of laymen.

Some of the financial instruments introduced by Western economists have carefully disguised the element of *Riba* and have misled a number of Muslim economists. This is true also for some *Shariah* scholars who are less acquainted with capitalist economic theories and the fallacies therein. For the purposes of our discussion, we have classified Islamic contracts into four broad categories, depending on their legal character, effectiveness and economic consequences. The list, as set out below, is by no means comprehensive and omits those contracts which the Islamic and conventional systems have in common.

Ownership and Profit Sharing

Qard-ul Hassan

From the legal point of view, the main ingredient of a *Qard-ul Hassan* contract is a loan that is not contaminated in any way by *Riba*. There is a lender and a borrower, with no reference to a market which might give one the impression that there should be a "price" for it. The relationship between lender and borrower is one of creditor and debtor, and the principal of the money loaned out remains the responsibility of the borrower. The lender cannot demand his dues before the end of the contract period. Funds in this form are advanced to both real and legal entities with the aim of providing humanitarian assistance[35] and creating financial strength for members of society who lack the wherewithal to meet their general and essential needs. When *Qard-ul Hassan* is given to a real person (that is, a household), it may be just for humanitarian and individual welfare purposes. Many Muslim countries have had long experience of this type of finance[36] and such funds have been set up as private institutions among many believers.[37] They are quite often short-term, humanitarian arrangements (based on Quranic teachings) to help people meet an immediate need. The borrowed money can be used for a variety of purposes, including the purchase of household

durable goods. Such behavior, using interdependent utility functions, produces and develops a brotherly feeling among people within and between the households involved.[38] These interest-free loans are in line with Quranic injunctions to honor society as vice-regents of Allah (SWT).

A legitimate question may arise here as to how such loans would deal with inflation. The simple answer is that it is hard to imagine inflation arising within the GCS in the first place, except perhaps during the transition period from the old capitalist system. In such circumstances, to prevent injustice to the lender in the face of inflation, it is recommended that the principal amount of the loan be pegged to the price of a specified commodity such as rice or wheat, provided that the commodity is free of any speculative activities. At the end of the loan period, the borrower then pays an amount of money equivalent to the amount of the chosen commodity that could have been bought when the contract was initiated. In such circumstances, it is probably best to leave such funds in the hands of the private sector, which, for reasons outlined earlier, is normally more efficient that the public sector.

The more important aspect of *Qard-ul Hassan* funds is that part which involves both the state-owned Islamic banks and the legal entities. All persons, real or legal, depositing their so-called extra funds (over and above their immediate needs, and for the sake of pleasing Allah (SWT)) into an Islamic bank in the form of *Qard-ul Hassan* savings accounts will clearly see that the bank utilizes them for the immediate needs of the firms to which the bank has initially provided loans. Such properly justified needs might include cash flow, either to buy raw materials or to pay wages. These loans are of a short-term nature and are designed to alleviate temporary financial problems being experienced by enterprises, large or small. They undoubtedly have a beneficial effect, particularly in small regional towns and villages.

In cases where the problems are of a longer-term nature, the short-term humanitarian solution provided by *Qard-ul Hassan* contracts would not suffice. The answer has to be found elsewhere.

Musharakah

This contract in its general form is the pillar of Islamic finance in that it is primarily based on profit-and-loss sharing (PLS). It has the flexibility that enables it to be used for a wide variety of economic

activities, from industry (as equity participation), to construction (as civil partnerships and installment sales), to farming (as *Mozara'ah*), to plantation (as *Mosa'qaat*), and finally to trade (as *Mudarabah*).

Equity Participation[39]

In this contract, the Islamic bank supplies part of the capital required to establish a new joint-stock company or to purchase shares in an existing company.[40] In the former case, if we use K (B) and K (F) to represent the bank and the firm's respective share capital, then K is the total capital needed for the project:

$$K = K (B) + K (F) \qquad (5\text{-}7)$$

The project has to be both economically and socially justified and in accordance with the country's general economic priorities. The bank's participation will be contingent on its receiving satisfactory results from its initial studies of the proposed project. Such investigations will include the following:[41]

Economic considerations The effects of the project have to be directed toward increased employment, a reduction in general price levels, a more equitable distribution of income and wealth, an increase in general social welfare, and the creation of secondary and downstream industries. The bank will also consider such things as total outlay and the proportion of that taken up by fixed and variable costs. Average and marginal costs at different capacity levels are important aspects. An efficiency–equity trade-off has to be made and compared with other countries, without losing sight of social considerations.

Technical considerations These will include the best mode of operation in light of the available infrastructure, skills, machinery and equipment; the location of the project and any special incentives for investing in the region; the rules and regulations governing its operation; and a host of other considerations that directly and/or indirectly affect the feasibility of the project. A timetable for both physical progress and expenses at different stages of the implementation process is vitally important.

Financial study and forecasts These are often being undertaken in parallel with economic considerations and are mostly concerned with whether the project is useful and viable from the standpoint of the

rate of return on capital and profitability. Data needed here include all production costs, domestic and foreign demand, foreign exchange rates, and the tariffs imposed by the importing countries.

When all this is complete, the price of the produced commodity plays an important role in determining the profit share of the bank [Π (B)] and of the firm [Π (F)]. The profitability of the project leans heavily on the pricing method and estimated price elasticity. Under certainty conditions, the profit (Π) has to be divided between the bank and the client firm. The share of the profit need not be proportional to the share of the capital. Given that:

$$\Pi = [\Pi(B)] + [\Pi(F)] \tag{5-8}$$

this means that:

$$K\ (B)/K\ (F) \neq [\Pi(B)]/[\Pi(F)] \tag{5-9}$$

Depending upon the country's economic policies, one of the three possible cases can prevail. If there is to be an incentive for investment in one specific project, then we will notice:

$$K\ (B)/K\ (F) > \Pi(B)/\Pi(F) \tag{5-10}$$

The inequality sign is reversed in the case where the bank wishes to discourage the potential client(s). The equality sign is reserved for cases in which overall economic conditions are such that authorities are indifferent about whether or not the project is undertaken.

Risk has to be taken into consideration in any investment decision-making process. The client would definitely be happier when risk is low but the proportionate rate of return is high. High risk is considered to be a deterrent as far as investors are concerned. But what happens when the project is both viable and badly needed but the risks involved are high? The state-owned Islamic bank has the central role to play here. The potential investor's expected rate of return has to take into account the risk factor by compensating the risk-premium of the investor. Our recommendation in such cases would be to increase the relative profit share of the investor to that of the bank.[42] Once these matters have been agreed, a timetable has to be drawn up for the operation of the project at various stages and arrangements put in place for close and regular supervision to ensure that the project is on schedule, both physically and financially.

Civil Partnership

This contract involves mixing the capital of one or more partners with the capital of the Islamic bank on a joint-venture basis for the performance of a specific job in the fields of production, trade and services for a limited period. This is an optional partnership in that, unless a specific duration is stated at the signing of the contract, any one of the partners may withdraw from it at any time.

Again, this is a very flexible contract that can be used and applied to a wide variety of activities. One good example is in constructing a house, an apartment, or business premises, for that matter. The duration of any of these is when construction has been completed. The mode of settlement of accounts should be known and may adopt one of the following arrangements:[43]

   i.   A non-bank partner may purchase the finished "product" at the end of the agreement, at the current sale price.
   ii. A non-bank partner may purchase the finished "product" at the end of the agreement, at a price to be fixed with the concurrence of partners.

In either case, the share of each partner may be paid at different times and on the basis of the progress reports. The buyer can purchase on an installment basis, the period of which must have been stated in the contract. In the first option, the Islamic bank, which is not the final buyer, protects its depositors by enjoying the likely increase in the general price level. The bank might choose the second option in order to encourage the real or legal person in need of the "product." Finally, the banks are prevented from buying the finished product and thus from becoming big owners of property. They must adhere to their ultimate goal of maintaining social welfare by meeting the demands of as many clients as they can. The following notes are important to take into account:

   a.   Unlike a commercial partnership, which is formed and works within the framework of the laws and regulations of the commercial code, the civil partnership works with the laws and regulations of the civil procedure code and is forbidden for commercial activities.
   b.   Unlike a commercial partnership, a civil partnership does not possess an identity independent from the identity of the partnership.

c. In some commercial partnerships, a partner cannot transfer his share to anyone without the concurrence of the other partners. In a civil partnership, any partner can transfer all or part of his share to a third party without the concurrence of the other parties.

d. In a civil partnership,[44] if the partners are unable to pay their debts, insolvency regulations are applied. But in a commercial partnership, bankruptcy regulations apply.

Mudarabah

Mudarabah, the most-widely known Islamic contract, is a profit-sharing contract in which one party (the *Rab al-Maal*) provides funds and the other (the managing trustee, the *Mudarib* or *Amel*)[45] management expertise. This contract is believed to come from the Arabic word *darb*, which means walking and traveling on the earth. (The *Mudarabah* is sometimes known as *Qirad*.)[46]

While the literature extends this contract to include investment and launching a project,[47] we confine ourselves here to trade activities.[48] Profits are shared between the *Rab al-Maal* and the *Mudarib* in a proportion agreed in advance. Losses, if any, are the liability of the former, and the latter loses his share in the expected profits. If, however, the *Mudarib* is proven to be guilty of willful negligence, fraud, or a breach of trust in handling the funds, he/she is totally responsible for the losses. Funds are to be used for Islamically permitted activities and, according to Khan:

> [T]he *Rab al-Maal* has the option to restrict the *Mudarib* to a specific purpose, period, level of risk, and so on... The *Mudarib* is not allowed to buy or sell *Mudarabah* assets against or for his own possessions. The profit can be [used again in another trade] but only after paying the share of the *Mudarib* in the profit. (Khan 2000: 27)[49]

Other characteristics of the *Mudarabah* contract are set out below:

i. *Mudarabah* is an optional contract, giving either of the parties the right to revoke the agreement unless a condition to the contrary has been included in the agreement.

ii. It is a short-term contract of up to a maximum of one year and solely for the expansion of commercial activities. The *Mudarib* is either a real person or a legal entity.

 iii. Unlike the Principal–Agent theory, the roles of the *Rab al-Maal* and the *Mudarib* are completely separate; and in this respect, the owner should only supply the capital and under no circumstances accept the responsibilities of the managing trustee,[50] thus ruling out the possibility of Islamic banks acting as the *Mudarib*. Even if, at the signing of the contract, the *Mudarib* accepts responsibility for some of the costs, this does not constitute playing the role of the owner of the funds.[51]

 iv. The capital must definitely be in ready cash supplied in a lump sum or in parts, which means that a *Mudarabah* in profits and dues is not correct.

 v. Except for those stipulated in the agreement, no other costs can be defrayed from the capital, and any such incidental costs are to be borne by the *Mudarib*.

 vi. The responsibility of the *Mudarib* in safeguarding the *Mudarabah* capital is that of the trustee agent. Otherwise, the *Mudarib* cannot be held responsible for the safety of the capital or for damages suffered in the course of trading, except if it has been clearly stipulated in the agreement that the *Mudarib* will pass the ownership of his own property to the owner up to the extent of the damage or loss.

The *Mudarabah* contract has another characteristic that is peculiar to real persons. It is composed of three different contracts; namely: Safe-depository (*Amanah*); Trustee agency (*Wekalah*); and Partnership (*Musharakah*). The importance of each becomes evident if the *Mudarib* happens to die in the course of trading. If (s)he dies before the purchase is made, then the total capital is owned by the *Rab al-Maal*. If (s)he dies after purchase of the goods but before selling, the *Mudarib* is treated as the trustee agent and all costs incurred in the course of buying are the responsibility of the owner of the funds. Finally, if the *Mudarib* dies after selling the goods but before reporting to the *Rab al-Maal*, then (s)he has all rights as if (s)he were alive and is considered to be a partner and his/her share is to be paid according to the conditions agreed at the outset.

The capital of the *Mudarabah* contract should include one or more of the following: purchase price; packing, transportation, and forwarding costs; insurance and registration of orders; warehousing; bank costs; customs levies and commercial tax; and any other foreseeable costs. The payment of other costs not provided for in the contract is the responsibility of the *Mudarib* who, by signing a

letter of understanding, accepts this responsibility against receipt of a compensation fee.[52]

Direct Investment and Islamic Syndication

This is another of the activities of Islamic banks subject to joint-venture regulations. The establishment and start-up of new production and development units through this type of investment is permitted where equity participation is either impossible or where the private sector is reluctant to become involved. Where possibilities for direct investment exist in line with the country's economic expansion and development programs, such a contract is the most viable for Islamic banks. They are subject to the usual technical, economic and financial studies and evaluation, which should show the project to be viable from all angles.[53]

The syndication transaction is a special financing instrument devised for the purpose of financing large-scale investment projects. Such projects are jointly financed by a consortium of Islamic banks, which pool their resources and thus spread the risk between them.

Khan recommends that this consortium be operated using a lead-manager in the shape of a bank of international repute and standing: "It is usual for the Lead-Manager to form a consortium of underwriters and co-managers to execute [the project] effectively. The relationship between the Lead-Manager and other participants in the financing is clearly defined" (Khan 2000: 29). The sale of all or part of the investment (that is, all or part of the shares of the Islamic bank) to the general public in an Islamic stock exchange is possible after the project becomes operative.

Mozara'ah

In Islamic jurisprudence,[54] *Mozara'ah* is an agreement between the owner of land and the farmer, according to which the farmer (*Amel*) cultivates the land and the produce is divided between the parties in an agreed fixed ratio. A more elaborate definition describes it as "a contract in accordance with which one of the parties gives a plot of land for a fixed period to the other party to cultivate and divide the yield" (Shirazi 1988: 229).[55]

The person giving the arable land as *Mozara'ah* should either be the landlord or the owner of the benefits thereof. The specifications, boundaries and area of the land should be clearly fixed and known. It

has to be capable of cultivation and of yielding the produce expected. Shirazi says:

> The framework of duties and responsibilities of the *Amel* must be specified in the *Mozara'ah* agreement. The responsibility of the *Amel* with regard to the *Mozara'ah* property is like that of a trustee, and he may be held responsible to make good the difference or loss caused, only if he is not careful in farming. (Ibid.: 231)

If farming is done in a location where only one kind of farm produce is obtained, even if the agreement does not stipulate it, the kind of farming is considered as having been determined.

This is an obligatory contract and is therefore binding on both parties and cannot be annulled by one of the parties unilaterally. The death of one or both parties does not nullify the agreement, unless supervision by the *Amel* has been stipulated in the agreement, and/or the landlord is a life-owner of the interests in the land.[56]

This contract is applicable both in cases where the Islamic bank owns the land and when the land is privately owned. It differs slightly from PLS contracts in that it is about output-sharing rather than profit-sharing, or what is known as "sharecropping", with all the advantages attached to it. Nevertheless, there seems to be a misunderstanding in this regard on the part of a few Western economists.[57] Professor Silberberg, for example, asserts that: "Sharecropping is a form of *rent payment* in agriculture in which the landlord takes some share of the output, specified in advance, instead of a fixed amount, as payment for the use of land (rent)" (Silberberg 1990: 607; my italics). He goes on to add:

> Sharecropping as a contractual form of rent payment came under attack by various economists on the grounds that it misallocated resources relative to the fixed-rent contract. In its neoclassical formulation, the rental share paid to the landlord was regarded as equivalent to an excise tax on the sharecropper's efforts, inducing sharecroppers to reduce output below the level where the marginal value product of the sharecropper equaled their alternative wage.

Silberberg's analysis and remarks require further examination:

1. Why should sharecropping be treated as a "form of rent payment" in the first place? Rent, by definition, is always

considered as a cost, whereas sharing, like dividends paid on stocks, is never treated as such in accounting procedures.

2. In saying that the rental share paid to the landlord induces sharecroppers to reduce output, he is, in fact, talking about irrational behavior. It is certainly irrational, if not ridiculous, to postulate that they would, in effect, harm themselves in order to harm others. If the sharecropper is induced to reduce output, his share will definitely also be reduced. Would it not be more meaningful to say the reverse; that is: to put more effort in order to share more in the output?

3. Silberberg has used his analysis as an application of the Coase Theorem,[58] which was originally used in a situation where the production of one good is a negative output in the production of some other good; that is, in a situation of negative externality. He clearly had difficulty in recognizing situations where positive externalities might exist for both sides. However, his framework of analysis is within a zero-sum game, within which "my gain is your loss." His analysis assumes the aims of the landlord and the tenant to be in conflict with each other and, under such conditions, it is hardly surprising that he arrived at his misleading conclusion. There are many examples where both sides benefit. A trivial and old example is trade. This should guide us to take the case of sharecropping in a cooperative system, where the end result is an increasing-sum game, with a totally different outcome. The proposal here is that such cases have to be analyzed in a cooperative framework, with common goals on both sides. In this example, the common goal would be to maximize output with a view to increasing the tenant's share. In mathematical terms, the problem could be analyzed as one of unconstrained maxima.[59]

Mosa'qaat

This is a contract between the owner of a "tree and the like" and an Amel, against a clear-cut share of the yield, which includes fruit, flower petals, and so on. Again, the constituent parts of *Mosa'qaat* can be separated into tree, labor, yield, and time period. The "tree and the like" which form the subject of an agreement must possess the following characteristics:

a. The trees and plants should be such as have gone into the ground and be capable of staying in the ground for more than one year. It then follows that vegetation and plants of a seasonal nature, which naturally last less than one year, cannot be the subject of such a contract.
b. Non-yielding trees, which do not give fruit, cannot be the subject of a *Mosa'qaat* agreement unless their leaves or flowers have market value.
c. The garden (or orchard) owner should really own the trees or interests therein, and/or should be entitled to use them.

The specifications and boundaries of the orchard or garden should be stated in relation to the yield, as well as the type and number of trees. If the share of the parties is fixed as a definite quantity of the yield, and/or the yield of certain trees is reserved for one of the parties, and the rest for the other party, the transaction is void. In the same way, it is not permissible for the entire yield to go to one of the parties.[60]

Exchange

Installment Sales (Murabaha)[61]

This contract is one in which an existing item is transferred, at a known price, in such a manner that all or part of the price of that item is received in installments (equal or unequal) at a fixed maturity or maturities. This is an obligatory contract in which purchase or sale cannot be abrogated, except in cases provided for in the law governing this contract.

Banks are strictly forbidden from the direct purchase of an item with the intention of retaining it or selling it in the future. That is, there must be an applicant who has undertaken to purchase that item. This contract provides finance to firms for raw materials, machinery, equipment, and so on, and to households which, for one reason or another, are out of cash or unwilling to buy items in cash. On written application from the client, the bank is permitted to place an order for the required item. It buys and takes delivery of the item and, as quickly as possible, either hands it over to the client or has it installed and locked in the client's firm, and retains control of the key.

In domestic purchases, the bank generally pays only the price of the item; other costs involved in packing, transportation and

insurance, are the customer's responsibility. In the case of purchases from overseas, the bank establishes the various letters of guarantee but the procurement of all licenses and import approvals is the responsibility of the applicant. In such cases, the bank usually pays the cost/insurance/freight (C.I.F.) price of the goods, all other costs being the responsibility of the applicant.

For the purchase of raw materials, collateral amounting to at least the total of the installments must be taken at the time of signing the contract. For the purchase of industrial, mining, and agricultural machinery and equipment, the item itself suffices as collateral, provided that it is kept under the bank's control until the final installment has been paid. It is up to the client, therefore, to take proper care of the goods and any proven negligence on the part of the client is liable for compensation.

It has been argued by some Muslims that the rate at which installment sales are based is the same as the rate of interest. This has become another source of confusion in some Islamic countries. In order to make this clear, it has to be emphasized that the rate of interest is the "time value of money," which is forbidden. The mark-up used in installment sales is the "money value of time," which is permitted. In the former, the commodity (C) is not involved except as a deceptive device to circumvent the rule; in the latter, (C) is necessarily involved. While the former is not channeled into investment expenditure unless the expected rate of return is higher than the going rate of interest, the latter is part of the effective demand which works as a stimulant to production and further employment.

In installment sales, the seller has the right to add a percentage to the cash price of the commodity equivalent to that he could have had from selling in cash. This amount is the product of two numbers: a percentage the seller adds each time to the cash price of the commodity, and the number of transactions that could have taken place otherwise (Toutounchian 1379 = 2000–2001: 368–371). While it may be that the rate of interest is the same as the mark-up rate, their equivalence does not make them of equal nature and consequence.

Obviously, although the total installment payments exceed the cash price this is *Shariah*-compliant on the grounds that the commodity (C) is exchanged with money (M) in the future, but the transaction is of the C–M type, rather than the M–M type which involves interest. There are two important points to note here. Let us take a simple example involving a real person who wants to buy an item whose

price is to be paid in the future in a lump sum which is higher than its cash price: (a) the difference in price is justified on the grounds that the deferred payment does not allow the seller the opportunity to buy and sell the item before the full price is received. The seller, therefore, adds a percentage, like a mark-up, to his purchase price and sells at the buying price plus the mark-up. The seller is then entitled to add as many mark-ups as he could have gained had he sold the item, many times, in cash. This is the "money value of time,"[62] which is different from the time value of money. (b) Suppose the cash price of the item is $1,000, and it is also available for sale at $1,200 in 12 equal installments. Imagine that a money lender is willing to lend the purchaser the money to buy the item in cash but for the purchaser to pay him back $1,150. At first glance, it seems that both money lender and purchaser will benefit from these arrangements. However, exchange of money (M) for money (M) from which interest emerges is prohibited and the cash purchase is not valid either.

One last point remains to be answered. The accounting procedure for installment sales should be as follows: every installment of $100 is composed of [($1,200)−($1,000)] ÷ 12 = $16.67 as a mark-up and the remaining $83.33 has to be deducted from the cash price. In other word, the installments have to be equally pro-rated. For the reasons given below and in the preceding chapters, the seller is not allowed to record for the first installment $20 as the "profit" and $80 for the principal. Neither is he allowed to record $18.67 and $17.31 for his profits for the second and third installments, respectively, or $81.33 and $82.69 as the principal payments for the second and third installments. This latter procedure is common practice in interest-based money loans which, on the one hand, upgrades "money" to the level of a "commodity"[63] and, on the other, assigns to the "money" properties beyond those possessed by commodities. That is, in spite of its being non-depreciable, it is given the advantage of "breeding" through gaining interest. This is clearly a fallacy.

Our proposal for the type of accounting procedure to be followed by the seller (outlined in earlier chapters) is based on the grounds that all items are subject to depreciation, except money.[64] Given this universal principle of depreciation, then the value of the durable item purchased will be reduced in an ascending, not descending, order. More importantly, the seller has not lent money to the buyer; rather, the buyer has received a commodity. Finally, if the buyer decides after making three payments to pay the balance at once, our proposal correctly entitles him to a larger portion of the asset compare to

that often practiced in interest-based systems: compare \$250 (= 3 × 83.33) with \$244 (= 80 + 81.33 + 82.69). For more valuable items, the difference is more significant. Consequently, not only is our proposal based on the principle of depreciation and is to the benefit of the buyer, but it is also grounded on the logic of exchanging commodity for money (C–M), as opposed to the capitalist procedure of exchanging money for money (M–M), which clearly favors the seller at the expense of the buyer.

One of the areas of greatest concern in almost every country is the shortage of housing. Two complementary contracts—Civil Partnership and Installment Sales—can be used to partially offset this problem, as outlined below.

The client (house purchaser) has to provide the land and the infrastructure necessary to develop it. On the basis of the client's request, the Islamic bank can sign a Civil Partnership agreement for the payment of the construction expenditure, with each party's share being determined in advance. On completion of construction, the bank has to sell its share to the client on the basis of an Installment Sales contract, on fixed or variable installments for a specified period.

To protect its depositors' interests, the bank should sell its share at the "real" market value of the house, free of any speculation.[65] The proportionate part of the property that is owned by the bank can be used as collateral till the receipt of all dues. Banks are obliged to make arrangements to have the housing unit insured every year, in their own favor, at least for the balance of what is owed. If clients arrange to pay all or part of their commitments before the fixed maturities, banks are obliged to give a pro-rata rebate from the relevant profit.[66]

Hire-Purchase (Leasing)

A hire-purchase agreement provides the hirer with the option to become the owner of the item at the end of the tenure of the hire provided that the hirer has fulfilled all the conditions in the agreement. Under its terms, a business entity or individual may request the bank to purchase capital goods such as equipment, tools or machinery and rent them to him or her. The rent is charged from the date the lessee takes delivery of the goods and the duration of the lease is determined. In cases of non-payment of installments, the bank (lessor) has recourse to the leased asset. Under the contract, the lessee is obliged to pay a periodical rental charge which normally exceeds the depreciation value of the asset. This can be a fixed amount for the whole period

of the lease or a variable amount, depending on the specific terms of the agreement. Provisions for such things as insurance, repair costs and protection of the leased item can also be tailored to the respective needs of the parties.

The duration of the hire-purchase period must not exceed the useful life of the item in question and the lessee has no right to transfer the property to any other party without the bank's written permission.[67]

For the lessee, hire-purchase (leasing) has many advantages over direct purchase in that it is the use of the asset that is most important, not who has title to it. There are many reasons, good and bad, for leasing.[68] In general, though, it has gained momentum in the banking system largely as a result of the tax advantages it has to offer.[69]

Salam

This contract (also known as "advance payment sale") is an "advance payment for deferred delivery. In this case, the bank pays the agreed amount of the financing to the client in advance, and the goods are delivered to the bank at a specified future date and place" (Khan 2000: 25). To avoid any misunderstanding, it should also be added that the goods in question have to be based on a client's demand. Of such contracts, Shirazi says the following:

> [W]hen, during the process of production, the producer feels a financial constraint on part of his or her working capital needs ... forward deals are signed only to help the producer by supplying part of the working capital needs. Banks [can be] authorized to sign such deals only at the request of a producer. (Shirazi 1988: 201)

It must be added, though, that the produced goods could have been used either in another process for further value-adding or, if they are needed in society, the request could have been made by a third party. The Islamic bank does not receive the goods; rather, it acts as facilitating agent.[70] A producer's need for working capital does not alone justify payment from the bank. One of the uses of the *Qard-ul Hassan* contract mentioned earlier is to pay the working capital of those producers which have already been financed by the Islamic bank and thus enjoy a good reputation. Such an instrument can be used as a trilateral contract involving the bank, the client and the client's supplier or producer.

As to the price of the commodity in question, a *Salam* purchase is usually cheaper than a spot purchase (Khan 2000: 25). There is no need for an Islamic bank to enter into any conceivably profitable transaction and, to ensure that it is entirely *Shariah*-compliant, the price of the forward purchase should never exceed the cash price of similar products at the time the goods are delivered.

Khan sees *Salam* as "an exception to the general rule that the seller must possess the goods he is selling." Of the four possible types of transaction, shown below, only the last, *Kali be-Kali*, is not *Shariah*-compliant.

	Delivery of goods	Payment	Known as
1	Immediate	Immediate	spot sell/purchase
2	Future	Immediate	*Salam*
3	Immediate	Future	*Bai Muajjal*[71]
4	Future	Future	*Kali be-Kali*

Commitments

Jo'aalah

This is a contract under which one party, the *Jaa'el* or bank, undertakes to pay a specified amount of money, the *Jo'ol*, to the other party, the *Amel* or contractor, for rendering a service specified in the terms of the contract. Either party may opt to rescind the contract so long as the stipulated action under it has not been taken. A bank may enter into a *Jo'aalah* agreement either as an *Amel* or as a *Jaa'el*, as necessary. In general, the right of the *Amel* to transfer part of the known activity to a third party under a secondary *Jo'aalah*, with the agreement of the other party, is reserved.

Responsibility for the preparations and purchase of materials, tools, equipment, performing a service and other essentials for carrying out the *Jo'aalah* may fall to either party, depending on the terms of the agreement. If the *Amel* accepts this responsibility, he should, at the outset, submit an estimate of all the operational costs for the *Jo'ol* to the *Jaa'el*.

The *Jo'ol* may be repaid either in a lump sum or at intervals, in equal or unequal installments, at fixed maturity or maturities. Whenever the bank acts as an *Amel*, it is essential to obtain sufficient security

from the *Jaa'el* to be assured of the fulfillment of commitments made; if necessary, arrangements should also be made to insure the property involved.[72]

Guarantees[73]

Here, the bank guarantees the performance of the undertakings made by its client to a third party. That is, the bank commits itself to pay, up to the amount stated in the letter of guarantee, the specified beneficiary should the client fail to fulfill its obligations in a proper and timely fashion, immediately on receiving the beneficiary's notification.

Bank guarantees can be issued for a variety of purposes. The most common include tender bids; good performance of job/undertaking; advance payment; return of fund-deductions; customs guarantees; and payment-undertaking guarantees.

All of the above can be issued on behalf of real or legal persons but none must be usurious, the determination of which is the responsibility of the bank's *Shariah* board.

The different types of contract and the economic activities to which they are best suited are summarized in Table 5.1.

It is worth noting at this stage that, according to *Wikipedia*:

> *Shariah*-compliant assets worldwide are worth an esti-mated $500 billion and have grown at more than 10 percent per year over the past decade, placing Islamic finance in a global asset class all of its own. In the Gulf and Asia, Standard & Poor's estimates that 20 percent of banking customers would now spontaneously choose an Islamic financial product over a conventional one with a similar risk-return profile.

NEW PRODUCTS

There are two other contracts, namely *Istisna* (Manufacturing) and *Sukuk*, both of which need further explanation.

Istisna appears in the literature as follows:

> At the request of the client, the bank places an order for the manufacture of some equipment or the construction of some major item as road or water pipe-line... When the item is ready, the bank buys it from the manufacturer and

Table 5.1 Islamic contracts for economic activities

	Economic Activity	Applicable Contract(s)
A.	**Production (Manufacturing)**	1. *Murabaha* (Installment Sales)
	Industry	2. Civil Partnership
	Agriculture	3. Equity Partnership
	Mining	4. Hire-purchase (Lease)
		5. *Salam*
		6. Direct Investment
		7. *Qard-ul Hassan*
		8. *Mozara'ah*
		9. *Mosa'qaat*
		10. *Jo'aalah*
B.	**Trade**	1. *Mudarabah*
	Import	2. Civil Partnership
	Export	3. Equity Participation
	Domestic	4. *Jo'aalah*
C.	**Services**	1. Civil Partnership
		2. Equity Partnership
		3. Hire-purchase (Lease)
		4. *Murabaha* (Installment Sales)
		5. *Jo'aalah*
D.	**Housing**	1. Civil Partnership
	Construction	2. *Murabaha* (Installment Sales)
	Repair and Maintenance	3. Hire-purchase (Lease)
		4. *Qard-ul Hassan*
		5. *Jo'aalah*
		6. Direct Investment
E.	**Household Needs**	1. *Qard-ul Hassan*
		2. Civil Partnership
		3. *Murabaha* (Installment Sales)
		4. *Jo'aalah*

> sells it to the client at whose behest the order was placed, at a profit, on a deferred payment basis. (Khan 2000: 26–7)

While this is clearly a useful contract and one designed to promote production, it seems to me that it would be more practical and manageable for the bank if it were amended to read that the bank may sign, on the basis of a written request from a client, a civil partnership contract with a contractor for the manufacture of some equipment or the construction of some major items needed by the country.

The item(s) requested by the client should be specified precisely, and the place, delivery, price, and so on have to be predetermined. Immediately after the completion of the manufacture, the item has to be sold to the client on an installment basis. This contract is typically a combination of two contracts:[74] a Civil Partnership[75] between bank and a manufacturer (or contractor), and another between the bank and, most likely, a government entity, for security reasons. The bank is the financier, the client is the final user, and the firm or the contractor is the manufacturer. There are many instances, especially in developing countries, in which there is a need, the financier is available and the contractor has the qualifications to meet the client's demand. The amended version of the contract can help bring three parties together and enable otherwise-impossible projects to come to fruition. This trilateral contract might be as shown in Figure 5.3 below.

Figure 5.3 Example of amended *Istisna* contract
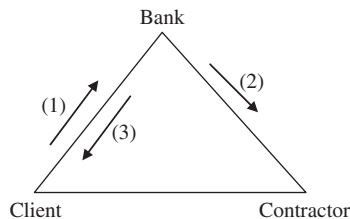
The trilateral agreement paves the way for major projects in which the client lacks the necessary funds.

Sukuk

The Institute of Islamic Banking and Insurance (IIBI) defines *Sukuk* contracts as having "similar characteristics to that of a conventional

bond with the key difference being that they are asset backed; *sukuk* represents proportionate beneficial ownership in the underlying asset. The asset will be leased to the client to yield the return on the *Sukuk*."[76]

The *Sukuk* has attracted considerable attention in recent years from Muslims and non-Muslims alike. It is categorized as the "Islamic equivalent of a bond" in *Wikipedia* (as up-to-date and reliable a source as any in this fast-growing area), which also provides the following information on the workings of *Sukuk*:[77]

> The essence of *Sukuk*, in the modern Islamic perspective, lies in the concept of asset monetization—the so-called securitization—that is achieved through the process of issuance of *Sukuk* (*taskeek*). Its great potential is in transforming an asset's future cash flow into present cash flow. *Sukuk* may be issued on existing as well as specific assets that may become available at a future date.

The fact that this new product has been introduced would seem to imply that all other Islamic products have been exhausted or inadequate to the task required. I do not believe this to be the case and feel that some Muslim scholars have rushed into this position without exploring the full potential of existing contracts.

The artificial demand for new products was originally promoted under the cover of "Islamic banking" by Western institutions in an attempt to attract funds from Muslims. If there is any element of truth in the Friedman Rule—which I, for one, believe to be in conformity of the word of Allah (SWT)—this means that both host and guest economies must have benefited from the fruits of zero nominal rates of interest. But then, we have to ask: Which one of these countries, Islamic or non-Islamic, has full employment, stable prices, equitable distribution of income and wealth, counter-cyclical movements, in relative terms? These are sound and reliable measures to test such claims, because these are the fruits of the absolute negation of interest. For many years, Muslim scholars have concentrated on what constitutes *Riba* but, in doing so, have completely neglected the fruits of its abolition. We have yet to see even a small city—let alone an entire country—practice the full economic consequences of the abolition of *Riba*.

To some respected economists, it appears that Islamic banking has been "hijacked by the West" and that all the major developments of the last decade or so seem to have been directed toward the same

end: to collect as much money as is possible, particularly from the oil-producing Muslim countries. It is no coincidence that "From its tentative beginnings, Islamic banking has mushroomed to the point that huge multi-national banks are rushing to offer Shariah-compliant versions of their products" (Hamoudi 2007).

Hamoudi puts the problem this way:

> The central issue is that although these products allow banking to take place without offending Shariah compliance—haram conventional banking products sanitized to become *halal*... there is 'a certain level of expectation within the contemporary Muslim community that social justice, mutuality and fairness are supposed to be centre-pieces' of Islamic banking institutions but 'that expectation is not being met by the current means of approaching Islamic finance'... some of the products have been created through 'artifice'; constructing products that follow the letter of the law so that they are not illegal per se... The larger conventional banks and smaller Islamic banks operate in much the same way... both types of institutions attempt, more or less, to figure out ways to mimic interest rates without explicitly doing so... (Ibid.: 34–5)[78]

My assessment of *Sukuk* is that it is indeed one of those products which appear to be *Shariah*-compliant and in accordance with the letter of the law, but which are not within the spirit of the law. Specifically, it has been manipulated to change it from a genuinely M (1) – M (2); M (2) > M (1) transaction by making it "asset backed" to become a M–C transaction and making it resemble equity-financing. As I understand it, since *Shariah* considers money to be a medium of exchange and not an asset in itself, it requires that one should not be able to receive money from money. The M (1) – M (2) transaction reflects the time value of money; which, as we have seen in earlier chapters, is not permissible.

In this regard, *Wikipedia* has the following to say:

> *Sukuk* are widely known as controversial due to their perceived purpose of evading the restrictions on *Riba*. Conservative scholars do not believe that this is effective, citing the fact that a *Sukuk* effectively requires payment for the time-value of money. This can be regarded as the fundamental test of interest. *Sukuk* offer investors fixed return on their investments which is also similar

in appearance to interest in that the investor's return is not necessarily dependent on risks of that particular venture. However, the reality is that banks invest in assets and the return from these such as rent is evenly spread over the rental period and it is this stream of income which forms the basis of the "fixed" income stream and return to investors. Furthermore, given that there is an asset in the background, there is more security for the investor which makes *Sukuk* increasingly appealing to global investors including both Muslims and non-Muslims.

Another seemingly *Shariah*-compliant instrument is *Tawaruq*, defined as the sale of a commodity to the customer by a bank on deferred payment at cost plus profit. The customer then sells the commodities to a third party on a spot basis and gets instant cash.[79]

Again, the transaction here is of the M–M form but, by artificial use of C, made to look like C–M in two different transactions; one a deferred payment and the other a spot price. This is totally non-compliant with *Shariah*, as it is in reverse order; that is, selling a commodity at a spot price and buying the same commodity at deferred payment, with the spot price being lower than the deferred price. It is, once more, a transaction of the form M–M, but disguised. The true intention behind such instruments is neither to buy nor to sell the same item; rather, it is to obtain money via a commodity. All transactions involving buying and selling by a buyer or seller who is not the final demander is speculative.

It is high time to abandon these deceptive devices and take to the regular waters of peace of mind and become part of the regulatory motion of the universe. Despite all their efforts, the capitalist economies have failed to meet the demands of the nations. As Joan Robinson put it:

> It is ironic that after the great technical achievements brought by the age of the growth, all we are offered is a return to large-scale unemployment and poverty in the midst of plenty, in an age of frustration … [T]he modern economies have failed to develop the political and social institutions, at either domestic or international level, that are needed to make permanent full employment compatible with capitalism. (Robinson 1979: 265)

A strong caveat is in order here. We have to be extremely careful to avoid producing the circumstances in which Islamic economics and banking experience the same fate as capitalism through modifying *Shariah* principles in order to accommodate perverse notions of compliance.[80]

Regardless of the contract(s) used, after it has been proved that the firm is able to run on its own, the bank has to sell its share, either to the firm or on an Islamic stock exchange. The price of the share has to be based on the asset value of the firm, not on a manipulated market value. The logic behind this can be made quite simple using an analogy between the stock price and manpower remuneration. The capitalist system puts great emphasis on "money" and commodity and their continuous growth by whatever means possible, rather than on human-beings, for whose benefit everything else is supposed to be managed and organized. On the one hand, this allows the price of stock to be determined in a speculative stock market on the grounds that the future profits of the issuing firm will, in all likelihood, go up and be exchanged at whatever price the market determines. On the other hand, it restricts the wage rates of motivated, intelligent, young people who might otherwise go on to become great scientists who might be able to change the course of world events. Before such young people are able to become an authority in their chosen field, they are remunerated, at best, according to their value as a marginal product in the category to which they belong. In this, the system follows a double standard and acts unjustly. I believe that what is recorded under "assets" in a firm's balance sheet should be the basis for stock pricing; nothing more and nothing less. Anything below or above is unrealistic and virtual. As we have seen, virtual wealth leads to the misallocation of resources and to the inequitable distribution of income and wealth. If we are to understand the origin of capitalism's problems, there is an urgent need to separate virtual wealth from real wealth.

NOTES

1 Some may argue that higher prices for goods and services are incentives for firms to produce more because it directly affects their profits. This seems to be another misleading conclusion, in two ways: first, sooner or later, the nominal price of the factors of production would go up and absorb at least part of the temporary increase in profits. Second, and more importantly, cet. par., the decline in the real income and wealth of consumers that results from an increase in prices means that the aggregate demand will shift to the left, which makes the proposition self-defeating.

2 In a paper entitled "A Monetary and Fiscal Framework for Economic Stability," in Mueller 1966: 337–52.

3 In the author's graduate class on Special Topics in Islamic Economics, students were asked to use the *MATLAB* software to set up an impartial hypothetical model for both conventional and

Islamic systems and show the differences. In some projects, war was imposed on both systems, resulting in deaths in the workforce and the destruction of part of the capital stock. Students found that while it would take seven periods to restore the conventional system to its pre-war economic situation, for the Islamic system, cet.par., it would take just three periods.

4   This arises from the fact that, as demonstrated earlier, money has almost all the properties of an (impure) public good. It is well established in the literature that where the production of such a "good" is undertaken by the private sector, whose objective is to maximize profit, production will be less than optimum. In our system, Islamic banks are owned by the public sector. More importantly, the functions of an Islamic central bank will differ from those of a conventional central bank, as we shall see later. These and many other differences stem from the assertion that money in this system is, and ought to be, endogenous.

5   It was once believed that because the Islamic financial system derives its rules from religious sources, it was limited to the Islamic faith and could not be used in the West. With the rapid growth of Islamic financial institutions in the West, however, many such misconceptions have been clarified, paving the way for further growth. J. M. Taylor, who undertook research to see whether Islamic banking is feasible in the U.S., concludes his paper with the following statement: "Ultimately, there is no apparent reason why a well-managed Islamic banking institution cannot be chartered in the United States. Furthermore, when such an institution is established, it will have great potential for success and profitability" (Taylor 2003: 414).

6   One of these was Nobel Laureate Professor Joseph Stiglitz, who gave a keynote speech at the "Leadership in Global Finance: The Emerging Islamic Horizon" conference held in Kuala-Lumpur in August 2007.

7   For further details, see Khan 2000: 4–5.

8   It is clear that rate of profit is exclusive of interest charges, among other costs, and internal rate of return is inclusive. These two variables are different for exclusion or inclusion of interest costs. This will, of course, remove the double-counting problem of the interest charges.

9   See Evans 1969: 73–220.

10 The Islamic bank, as an advocate to depositors, will receive predetermined fees which are, of course, part of the total profits earned. The rest goes to depositors.

11 With thousands of investment projects financed by Islamic banks, the law of large numbers tells us that overall loss is very unlikely in an Islamic Grand Cooperative System.

12 "In the social order," says Proudhon, "reciprocity is the formula of Justice. Reciprocity is defined in the maxim: Do as you would be done by"; adopted from Gesell 1934: 181.

13 It is interesting to note that capitalism, after over two centuries of failing to reach equilibrium, has come to the point where "equity" has been brought up as an issue in economic policy. For further details, see: IMF 1998; Brosio and Hochman 1999; van Doorn 1975; and Eichner 1976. We know very little about justice, its consequences and the way it could be implemented and integrated into the system. After many years, though, I am confident enough to assert that the way it is perceived in Islam is superior to the other economic systems which advocate for it.

14 In the GCS, laborers are expected to put their utmost effort into the production function in the firm (see Toutounchian 1998–99: 137–66). It is instructive to note that the capitalist view is concerned with the value of the marginal product of labor, VMP(L), which is far from being just. It can also be argued that it is the wage rate that determines VMP(L), and not other way round. This might be a source of conflict between the respective shares of labor and investor. In order to align their interests to reach a just agreement, value of average productivity of labor, VAP(L), with some modifications can be used instead.

15 One may find exceptions in Islam. For example, greed is admirable both in virtue and knowledge but not in material things. Virtue and knowledge are gifts of Allah (SWT) which bring joy and peace of mind because they are limitless. They nourish spiritual life but it is doubtful whether material life has such merit.

16 See Schumacher 1975: 1–2.

17 There is a distinction to be made between the place of normative and positive issues. The proper place for normative issues is a school of economic thought. The main tasks of normative issues are to spell out the goal(s) of an economic system. The positive aspects of any school of economic thought involve tools and instruments used to achieve normative goal(s). The former part of any economic system is morally loaded and the latter is value-neutral. Therefore, any controversial issue between two economic systems has to do with the former. It happens that all normative aspects of the Islamic economic system have a Quranic (Divine) base which should be given the veto power over wisdom. In the capitalist system, both kinds have man-made origins. We leave

it to the reader to recognize the advantage(s) of one over another. There are some writers who believe that there is no such thing as an Islamic economic system. Such statements are testament more to the incompetence of the believer than to Islam.

18 Those who believe that unrealistic assumptions are not important as long as the theory provides a defensible prediction are, most likely, close to those who maintain that economics is comparable to hard science. Islamic teaching, specifically in theology, tells us that all aspects of a theory, whether assumption, process or prediction, has to be realistic. This lesson presupposes that none of the aspects of man's behavior lies outside the regard of an economist. Professor Silberberg clarifies this point further, asserting that "Assumptions *must be realistic*" (Silberberg 1990: 9–14).

19 For a detailed discussion of the problem, see Silberberg 1990: 246–58.

20 In one of the projects with my graduate students, we came to the conclusion that to get close to justice, we needed to use average, rather than marginal, productivity. If this proposal is applied to all factors of production for every form of the production function, then a scalar needs to be used to remove the contradiction that emerges due to the adding-up theorem. We leave this exercise to the reader.

21 On the assumption that every cooperator in our GCS puts utmost effort into a cooperative activity, the mathematics and the shape of the production function and stages of production produce a picture that might be very different from the conventional method. Our GCS can be thought of as being composed of many cooperatives within which labor is homogenous but heterogeneous among them. This will prevent the free-rider problem from arising. The underlying assumption of bringing justice in a cooperative activity is that cooperators be equally (or semi-equally) talented individuals. Many successful examples come to mind, including cooperatives among surgeons, economists, philosophers, auto-mechanics, nurses, farmers, advisers, and the like. It is obvious that it is unjust to have cooperation among individuals with different talents because of the likely emergence of free-riding.

22 While we fully endorse the above principle, we also agree with Gauthier's proposition of a basic citizenship income, unrelated to work, for those unable to make any sort of contribution to social product (Gauthier 1986: 252). In the calculus of "economic man", this does not make sense but our main concern and objective is humanity.

23 This echoes Thomas Hobbes, cited in Gauthier's paper (Ibid.: 571).

24 The full context of some of these materials was presented by the author at the Global Forum; Leadership in Global Finance: The Emerging Islamic Horizon in Kuala Lumpur in August 2007, under the title "Exploring New Frontiers in Islamic Economics."

25 For example, Professor Bergson, cited in Nath 1976: 4.

26 See Zarqa 1980: 3–18.

27 This section draws heavily upon Shirazi 1988: 59–69.

28 Other, similar, words can also be used to have the same connotation: "being competent or professional," for example. However, the Arabic language uses the word *Ahli-yat*, for which there is no direct substitute. It seems to be the most comprehensive word ever. It has a much broader meaning than "qualified" or "professional" in that it encompasses technical, mental, managerial, and even emotional abilities required to be a perfect client. And that is what we have in mind.

29 Most of these units (departments) described are in the process of being established by the author, who has been made responsible to launch Islamic banking in the Bank of Industry and Mining in Tehran.

30 For further details on the functions of the committee, see Khan 2000: 15–16.

31 There are many other, more complicated, cases that can be imagined where careful study is required in each case. Appropriate software can be of great help to get optimum results by using, say, optimal control theory, linear (non-linear) programming, fuzzy logic, and the like.

32 Simple modifications to change IRR to its incremental and/or extended forms can be made equally valid for decision-making. "IRR has the advantage of giving some idea of the 'leeway for risk' offered by a project and is preferred by many businessmen for this reason. Many also prefer to work with a rate of return figure rather than with the absolute values of NPV"; for further details, see, for example, Hawkins and Pearce 1971:29–41 and Lumby 1983: 33–66.

33 This term brings with it a broader meaning than simply the "Code of Business Ethics" often used in the capitalist system. Our term encompasses all economic activities from organization and management to production, from production to exchange, from exchange to advertising, and from advertising to consumption, all of which require finance at various stages.

34 The following discussion draws heavily upon one or more of the following: Shirazi 1988; Helli 1995; Khan 2000; DeLorenzo 2001; and Hedayati *et al.* 2004. Special thanks are extended to them for making valuable documents available.

35 See Khan 2000: 30.

36 The written history of numerous *Qard-ul Hassan* institutions in Iran goes back more than 50 years. Two reasons have been mentioned for such institutions: that they are *Riba*-free and that they abide by Islamic recommendations to make life easy for other Muslim brothers/sisters in hardship. The author would like to record here a memorable experience he had during his period teaching at a U.S. university. A close friend he had often had lunch with became very interested in the author's Ph.D. dissertation, which was closely related to *Qard-ul Hassan* in a humanitarian framework. Before the author left the U.S., the colleague offered him a sum of money as *Qard-ul Hassan*. Although the offer was a gracious one, full of kindness, it was not taken; many thanks to him. Its sweet memory abides, after three decades. May God bless him, wherever he is. The author's thoughts and prayers are with him.

37 Many *Qard-ul Hassan* institutions receive no additional payment over and above the principal of the loan. The founders and the contributors pay for the expenses without passing these on to the borrowers. In Iran, there are institutions that charge only for the expenses, which are carefully kept to their lowest level. These charges are uniform irrespective of the amount of loan but vary according to the number of installments involved.

38 For analytical details, see Toutounchian 1977. The same theory can be extended to analyze philanthropic contribution (*Infaq*); in which regard, see Toutounchian 1984 = 1363.

39 Khan refers to this as "Participation Finance," while Helli calls it "*Sherakah*."

40 Khan calls this "equity financing" and adds that Islamic banks can only purchase ordinary shares, not preference shares.

41 All aspects will also apply to other contracts and are omitted to avoid repetition.

42 The bank's internal sources play the role of shock-absorber in such cases, because the risk is out of the investor's control. The whole economic system has to take responsibility for the risk. Obviously, both investors and consumers prefer lower-risk projects. The economic authorities have to constantly take action to maintain low risk, and hence, peace of mind for all citizens. Our strict objection to the way the conventional stock exchanges are run (apart from creating *Riba*, of course) is that expectations about the future rates of interest strengthen rather than reduce risk. Its adverse impact on investment planning is immense. The historical evidence shows that the investment component of GDP is the most volatile of all.

43 Adopted from Shirazi 1988: 117.

44 For accounting procedures in general and in cases of profit or loss, see Shirazi 1988: 120–25; and Hedayati *et al.* 2004:147–51.

45 See Khan 2000: 22–3.

46 For explanation and the origin of the word, see Shirazi 1988: 89–90, and Helli 1995: 262–3.

47 See Shirazi 1988: 89, Khan 2000: 23, and DeLorenzo 2001: 171–217.

48 See Hedayati *et al.* 2004: 119–20.

49 He further believes (Ibid.: 23) that an Islamic bank can "invest his own and/or clients' funds." I believe that there should always be a demand for finance, with just one exception—direct investment when the private sector is not willing to participate in a project that is badly needed socially. I also disagree with Khan's point that "The *Rab al-Maal* has the option to authorize [the *Mudarib*] to use his full discretion in managing the affairs of the *Mudarabah*" on the grounds that this case reduces it to a Principal–Agent contract, which is totally different from the legal nature of *Mudarabah*. In a *Mudarabah*, the *Mudarib* will choose to work hard because he realizes that his future earnings will depend on his current performance. However, in a Principal–Agent case, the principal and the agent have conflicting goals; see Connolly and Munro 1999: 95.

50 For a more detailed discussion, see Shirazi 1988: 89–111.

51 Ibid.: 91. The discussion also draws heavily on Hedayati *et al.* 2004: 118–36.

52 Because the *Mudarabah* was the dominant contract in the Early Islamic State, it has been the subject of intensive study by religious scholars. Interested readers are directed to Shirazi 1988: 95—111, Helli 1995: 262–71, DeLorenzo 2001: 171–217, and Hedayati *et al.* 2004: 124–36.

53 Further details can be found in Hedayati *et al.* 2004: 163–70, and Shirazi 1988: 151–3.

54 See Helli 1995: 272–7.

55 In some parts of the world, Iran included, not long ago there used to be similar contract in farming which had five components: land, labor, ox, seed and water. The labor was to supply the animal,

and the landlord provided the land, water and seed. The yield was customarily divided on 2/5 and 3/5 basis, respectively. In essence, it was a crop-sharing contract.

56 Interested readers are directed to Hedayati *et al.* 2004: 231–6; Shirazi 1988: 233–9, and Helli 1995: 272–84.

57 See Cheung 1969; adopted from Silberberg 1990: 607–8.

58 See Coase 1960: 1–44.

59 See Henderson and Quandt 1985: 375–9.

60 For further details, see Shirazi 1988: 246–54, Helli 1995: 278–84, and Hedayati *et al.* 2004: 237–43.

61 For a comprehensive discussion of contract components, provisions and procedures, see DeLorenzo 2001: 3–142; and Khan 2000: 24–5.

62 Some writers have failed to distinguish between the money value of time, which is *Shariah*-complaint, and the time value of money, in the form of M (1) – M (2), where M (2) > M (1) —which is nothing but interest, and definitely contrary to *Shariah*.

63 Despite its lack of any one of the properties of (private) commodities, some economists have put it in the consumer's utility function at the same level as commodities.

64 See Bronfenbrenner 1971: 315; although, according to him, land is also a "non-depreciating asset."

65 These two complementary contracts are common in some countries like Iran but with some deviations from the current law. The deviation emerges from the practice of not selling the bank's share on the basis of the "real" market value of the property; rather, it adds some mark-up to its "money capital" and receives this in installments from the client, the buyer—which sounds unreasonable. One can extend the argument to the case of an inflationary period and its different impacts on both the buyer and the bank depositors.

66 Further details can be found in Shirazi 1988: 169–73; Hedayati *et al.* 2004: 180–8; and Institute of Islamic Banking and Insurance 2001: 117–28.

67 On the terms of operation, see Shirazi 1988: 182–7; and Hedayati *et al.* 2004: 193–7.

68 See, for example, Ross *et al.* 1990: 620–48.

69 See Khan 2000: 27.

70 This function is totally different from that of the fund-intermediary in the capitalist system. This is an important point which could be used to distinguish between money as an endogenous or an exogenous variable.

71 This is described by Khan as "a trade in which the bank purchases the goods itself or through its agent, and sells them to the client…allowing him to pay the amount at a future date in a lump sum or in installments" (Khan 2000: 25). As such, there seems to be little difference from those contracts already outlined.

72 Further details can be found in Hedayati *et al.* 2004: 219–26, and Shirazi 1988; 215–23.

73 This section draws heavily Shirazi 1988: 268–78, and Hedayati *et al.* 2004: 250–61.

74 This contract, proposed by the author, is currently being considered by the Bank of Industry and Mining, Tehran.

75 Instead of a Civil Partnership, the bank can sign a *Jo'aalah* agreement with the contractor on the basis of the demander's written request as the final user (owner). This will normally happen when the contractor is neither willing nor has the capital to enter into such a contract.

76 Hamoudi 2007: 50.

77 While being aware of the potential criticisms that can be levelled against the use of *Wikipedia* entries on the grounds that they are unmediated and not subject to peer review, I nevertheless include this here because *Sukuk* is a relatively new concept and there is very little about it as yet in the peer-reviewed literature.

78 He further refers to the comments of A. A. Al-Sayed from the Central Bank of Bahrain in the previous issue that "conventional banking specialists use conventional banking products and modify them in order to make them *Shariah*-compliant."

79 See Hamoudi 2007: 50.

80 See Toutounchian 2004: 4–12.

The Role of Conventional and Islamic Banks in Investment: Certainty and Risk Conditions

INTRODUCTION

In general, conventional banks perform two functions: to collect deposits and issue loans. The system guarantees the depositor a predetermined return on the nominal value of the deposit and, in most cases, the deposits themselves are insured (for example, FDIC). On the other hand, a borrower pays a predetermined rate on the amount borrowed and has to provide collateral to guarantee the principal and interest. Thus, the role the banks play in the economy is essentially a passive role in the sense that their operations are quite inflexible in the face of any economic fluctuations. As the result, it has rightly been said that in these banks "…since the nominal value of deposits is guaranteed…shocks that can lead to banking crisis can cause divergence between real assets and real liabilities, and it is not clear how this equilibrium would be corrected and how long the process of adjustment would take."[1] This is the real essence of a traditional bank's function as a fund intermediary.

Banks in the Islamic system (that is, interest-free or equity-based banking) should operate "two windows":

> One window would cover only transaction balances and would pay no fixed or predetermined return on deposits, and also there would be no possibility of using…deposits as a basis for multiple credit creation…The other window would be the profit-and-loss, or equity, account in which a depositor would be treated exactly as if he were a shareholder in the bank.[2]

On this basis, it has been shown that:

> The Islamic system may well turn out to be better suited
> than the interest-based, or traditional, banking system
> in adjusting to shocks that can lead to banking crises.
> This is because in an equity-based system, shocks to asset
> positions are immediately absorbed by changes in the
> nominal values of shares (deposits) held by the public in
> the bank. Therefore, the real values of assets and liabilities
> of banks would be equal at all points in time.[3]

Once this distinction between interest-based and interest-free bank-
ing practice is clear, the only logical conclusion to draw is that the
conventional banking system (CBS) plays a passive role in the econ-
omy and therefore cannot be considered to be part of the system. Its
role is essentially a parasitic one, and it is for this reason that the
supply of money has always been treated as exogenous and its volume
is not affected by other economic variables.

By contrast, through supplying investors with capital, the Islamic
banking system (IBS) plays an active role in the economic system,
making it an integral part of the Islamic economic system. The role
of the CBS in creating and controlling the quantity of money in the
economy makes it a monetary institution. Because the IBS does not
have the power to create money but, rather, supplies the capital needs
of investors and acts as a shareholder, it is a financial institution that
implements financial policy.

The money market is the most essential element in the CBS but as
soon as interest, in any form, is prohibited, the money market will be
eliminated from the economic system.[4]

Money is treated as a private good in the capitalist system and
banks, which are profit maximizers, produce this commodity. The
Islamic economic system, in which money can be viewed as a "public
good"[5] and as potential capital, presents an entirely different picture.

The vital role of banking in any economic system is reflected in
the way banks finance investment projects. The most that can be
said about the CBS, under the certainty condition, is that it provides
debt-capital to investors. Not all the money created by the CBS
increases the stock of capital; a considerable portion is channeled for
speculative purposes (in the money market). Predetermined and fixed
interest charges on all debt-capital, independent of its productivity,
can legitimately be regarded as a cost of capital in this system.

Since the IBS, under the same condition, does provide equity-capital to investors, it behaves as a shareholder. The bank's share of total profits earned in an investment project cannot be considered part of the costs. Furthermore, since a) the IBS can have a share in almost all investment projects of an Islamic state, b) the weighted average rates of return on capital investment projects depend on every single rate of return, and c) there is no money market in the system, it can logically be deduced that the cost of capital is zero.[6]

This chapter has been divided into two parts. The first is devoted to the analysis of investment behavior of the CBS under both certainly and risk conditions, where the rate of interest is the justifiable cost (including the cost of capital) of producing goods. Under risk conditions, a risk factor is added to other costs of production and, again, it is the consumer who has to pay for this. The ultimate result is a decrease in investment expenditures and hence, a decline in aggregate demand and a loss of welfare.

In the second part, it is assumed that in an IBS all investment expenditures are financed through banks and via *Musharakah* contracts. It is further assumed, for simplicity, that there are only two parties (bank and investor) involved in each contract. The profit-sharing ratio between the bank and the investor affects the investor's demand for bank capital. The bank's share of profit is not always proportional to its share in capital; depending upon the overall economic conditions of the state it can be equal, less than, or even greater than its share in capital. This stems from the view that money is a public good and thus the banks are state-owned institutions and cannot be assumed to be profit-maximizers. However, Islamic banks try to put all potential funds to the most desirable uses and serve the public interest. This is, in fact, the essence of the IBS and hence an integral part of a Grand Cooperative System.

In theory, the depositors in an Islamic bank share in its losses as well as its profits, so that if the bank does incur a loss, the nominal value of their deposits is reduced.[7] However, this will rarely, if ever, happen and, in any event, the state would not allow the banks to go bankrupt. Furthermore, it will be shown below that the IBS has viable instruments which are counter-recessionary in nature.

The views about the nature of money and the ownership of banks in the IBS play the most crucial role under risk conditions. Recession has been defined from an investor's point of view as a condition within which the rate of profit is declining. Since it is the government which has sole responsibility for developing a recessionary downturn, it has

to forgo part of its share of profits to compensate for any decline in the investor's expected rate of profit. The ultimate result is to prevent any decline in investment expenditures and may even make it quite profitable for investors to increase their investment expenditures. Not much empirical evidence is required to prove that most, if not all, government expenditures are of this type. These expenditures are undertaken in order to improve the business environment and make it suitable for private investors to take part in investment projects.

Empirical evidence from the capitalist system suggests that while monetary policy is effective in fighting inflation, it is quite ineffective in recessionary downturns. The current recessionary conditions being experienced in even the most advanced capitalist countries lend further proof of this claim.

On the other hand, this section shows that the IBS, if properly practiced, is capable of preventing recessionary downturns and, in the unlikely event of their occurrence, of alleviating them. Given that the adverse social and economic effects of recession are more harmful than those of inflation, the importance of this conclusion cannot be exaggerated.

INVESTMENT IN A CAPITALIST ECONOMY

The single most volatile and unpredictable component of aggregate demand is the volume of investment expenditures. Consumption and government expenditures are relatively stable. If Keynes' view about the stability of the consumption function has any validity, fluctuations in the volume of investment are greatly understated since "with a reasonably stable consumption function, investment fluctuations give rise to fluctuations in consumption, too" (Ackley 1961: 460).

One of the problems for which no solution has ever been found and one which can be considered the principal problem of the capitalist system is the shortage of investment, not of money. It results from an invalid comparison between marginal efficiency of capital (MEC) with the rate of interest; the former being determined in the real sector and the latter in the monetary (speculative) sector. It is the consumers—not the producers or the government—who pay the costs of risk development.

Certainty Condition

Investment has been given a position of great importance in almost all macroeconomic theories, including modern Keynesian and post-Keynesian theories as well of earlier "business cycle" theories. According to Ackley:

> This primary role must surely reflect the observed great instability of investment, which (in net terms) fluctuate from negative to large positive numbers. On the average, (deflated) gross private investment has accounted for about 11.4 percent of (deflated) gross national product in the United States during the past 30 years, ranging from a minimum of 2 percent in 1933 to a maximum of 17.1 percent in 1950. (Ibid.)

In conventional investment theory, the optimum stock of capital is determined at the point where MEC is equal to the rate of interest (r).[8] For justification of the cost of capital, consider the two extreme cases where the total amount of capital investment is either being financed through a bank as debt capital or through the use of internal funds (undistributed profits and depreciation allowances). In both cases, the cost of capital is the current rate of interest. In the first case, it is a real "cost" that has to be paid. In the second, the argument is as follows: the internal fund, if deposited in a bank, could have earned interest: therefore, the current interest yield forgone is "the" opportunity cost of using it.

This argument might seem logical but there are two interdependent observations that can be made about it. Since the rate of interest (r) is independent of the productivity of capital, it is always drawn (in an MEC-r graph) as a horizontal line; therefore, comparing two things of very different natures is not legitimate. A corollary to this is that despite the illegitimate comparison, the rate of interest is used as a cut-off rate.

Interest, according to Keynes, is the result of speculative demand for money (or hoarding), but, by definition, MEC measures the efficiency of capital. Is it not surprising to see one measure—the rate of interest, however fictitious—being given so much power in being used as the sole criterion for a real phenomenon such as capital?

The capitalist treatment forces one to consider both money and capital as identical phenomena whose cost is "r." If this is indeed the case, why are "r" and "MEC" independent of one another? If they are different, then why is the capital market not treated differently in macro models, and the rate of profit not shown as the return to capital?[9]

Following Ackley,[10] the equilibrium condition in the loan or capital market (note that some Western economists regard these two markets as equivalent) can be written:

$$S + DH + \Delta M = I \qquad (6\text{-}1)$$

where (M) is the rate of addition to the money supply; (DH) is "dishoarding" (a reference to the rate at which cash balances are used to buy bonds); (S) is saving; and (I) is investment. Since $DH = -H$, by definition, where (H) is "hoarding" and assuming $\Delta M = O$ then given that (H) is always positive in a capitalist system, it can be concluded that:

$$S = I + H, \qquad H > O$$
$$S > I \qquad (6\text{-}2)$$

The interpretation of (6-2) is that the mere existence of a loan market never allows Say's law of equality between (S) and (I) to happen. In the capitalist system, the potential for pushing MEC down close to zero is there but the operation of the loan market does not allow this to happen. To put it differently, as long as a loan market exists unemployment is unavoidable.

INVESTMENT EXPENDITURE: A FUNCTION OF INTEREST RATE?

One of the most fundamental questions in economics concerns the relationship between investment (I) and interest rate (r). The classical economists and Keynes both believed that these two variables were inversely related, a hypothesis we revisit here through examining the empirical results of two outstanding surveys.

As Professor William H. White noted in the 1960s, for a number of years economists had been growing "increasingly skeptical of the value of the monetary policy for moderating the swings of the business

cycle or for controlling inflation."[11] In this regard, White cited Professor L. R. Klein's observation that "the [low] interest elasticity of investment has been well substantiated by different types of empirical investigation."[12] Klein went on to comment on two studies (one conducted by the Oxford Economists' Research Group, the other by an investigator from the Harvard Business School) which, he said, "show conclusively that the interest rate is largely neglected when investment decisions are being made." In referring to the Oxford study, Professor Hicks, too, found that "the traditional theory exaggerated the *direct* effect of the rate of interest on investment plans."[13]

Professor White concluded his paper with the statement: "The surveys do indicate that investment is to some degree less interest elastic than thought by the proponents of interest rate policy."[14]

Subsequent surveys undertaken by Professor Michael K. Evans led him to note that "the rate of interest elasticity is subject to a great deal of variability" (Evans 1969: 137).

The great harms inflicted on society through interest and speculation lead to the hypothesis that investment decision-making in the conventional (and, with some reservations, in the Islamic) system is a function of the rate of profit (ρ) with the specification:

$$I = h(\rho); \quad dI/d\rho > 0 \qquad (6\text{-}3)$$

The generalization of (6-3) to encompass the capitalist system is in line with the commonly used goal of firms at a micro level, which are assumed to be profit maximizers. In the absence of any reservations as to the social-welfare function, this also applies to Islamic banking behavior in order to protect the benefits of the depositors.

This hypothesis is roughly in line with the findings of professors Dhrymes and Kurz (1967), who estimated investment as a function of profits, sales, and alternative sources of funds—dividends, external finance through borrowing, and short-term investment (mainly inventories). Their results showed that when all sources and uses of funds are taken into consideration, profits have a significant positive effect on investment.[15]

The hypothesis depicted in (6-3) is rather more sophisticated in two respects: (a) it uses the rate of profit, and (b) it uses an average of past profit rates, which I believe is more relevant than the current profit rate.

There are further observations to be made on the role of interest rate in investment. First, the size of the rate of interest elasticity, if

any, is closely related to the price elasticity of output. That is, in cases where output price elasticity is low, the size of the rate of interest should not be a concern to a firm. Second, how can it be that, at the micro level, firms are assumed to be profit maximizers[16] (which logically means that they invest more as their profit [rate] increases) yet at the macro level investment is suddenly treated as a function of the rate of interest? Why is the rate of interest at the micro level treated as a component of cost while the role it is given to play in macro analysis is that of the most important equilibrating factor?

Risk Condition

Much has been written on the theory of investment under risk conditions and it is not my intention here to evaluate their merits and demerits or to develop an alternative theory. The following is a brief evaluation of the effects of risk and the way it has been brought into the analysis.

This section uses the definition of risk used in many of the writings of Western economists.[17] Here, though, we will concentrate on just one aspect, about which there is little disagreement among Western economists: "There is, however, another important factor that influences investment, and this usually lurks in the background as a non-market 'parameter.' This factor is the risk premium, which the firm must subtract from their prospective profit or the lender must add to the cost of borrowing" (Hadjimichalakis 1982: 82).

As stated earlier, the indeterminacy of investment demand by a price-taking firm operating under constant returns to scale forced the economists to develop "the principle of increasing risk." This principle made Kalecki happy because he was able to derive a determinate (downward-sloping) demand for investment.[18]

The standard MEC-r diagram[19] can be used to show the adverse effect of higher risk on the optimal stock of capital. In Figure 6.1, at the rate of interest r_1 and MEC_1 the optimal stock of capital is $\overline{K}$. If risk increases whose magnitude can be measured by σ then the investor either adds it to the cost of capital to reach at $r_2(= r_1 + \sigma)$ or subtracts it from the rate of profit (MEC) and derives $MEC_2(= MEC_1 - \sigma)$. The end result of either approach is the same: that is, a decline in the stock of capital.

It is obvious that in the first approach, consumers pay the risk premium, which is added to the prices of outputs produced under such conditions. But in the second approach, while they do not appear

Figure 6.1   Investment in the capitalist system (risk condition)

$$MEC_2 = MEC_1 - \sigma$$
$$r_2 = r_1 + \sigma$$
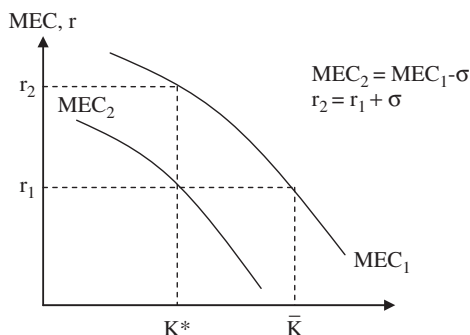
to pay higher prices to cover the risk premium, consumers really pay it indirectly through unemployment. Therefore, the cost is still there and has to be paid.

The question that must be raised at this point is: Who really ought to pay for the risk? The answer produced in Figure 6.1 is inappropriate and unfair, because neither the consumers nor the producers have anything to do with risk. By a process of elimination and quite logically, it is the government that is responsible for everything—good and ill—happening in society and with legislative, administrative and judiciary power in its hands, it should accept all responsibility. While it is not the intention of this book to address itself to finding solutions to capitalist problems, it is clear that there are crucial misplacements in this system which make ordinary people unhappy but the "idle rich"[20] happy.

INVESTMENT IN AN ISLAMIC ECONOMY

Muslims feel bound to adhere to Islamic rules and injunctions because such rules, if carefully observed, are for their own well-being and benefit, whether they are able to understand and analyze them or not. A simple example is the regular prayer whose philosophy may not be clear to all Muslims but whose effect, according to the *Holy Quran*, is to restrain from shameful and unjust deeds (*Quran* 29:45).[21]

It is not the duty of all Muslims to look for the reason(s) for such instructions but, having made a commitment, to expect the effects to materialize in our society. Similarly, we do not know the real reasons for the prohibition of *Riba* in Islam and neither do we bear the responsibility for discovering them. Their being in the domain of

normative economics, it cannot logically be proved (or disproved) by using the so-called scientific tools that are in the domain of positive economics. However, the task of Muslim economists is to frame the Islamic economic system in such a way that it can avoid the adverse consequences that the *Quran* promises for usury (see *Quran* 2:276)—something which I believe this book does.

As we have seen time and again throughout this book, the money market, which plays such a major role in the capitalist system, is the result of speculation with money. It is only logical, then, that the abolition of interest would lead to the total disappearance of this market. Therefore, any changes in the level of investment in an Islamic economy should be directly attributed to the marginal efficiency of capital (or, equivalently, the rate of profit).

To summarize then:

- Money has just two functions to perform: as a medium of exchange and a unit of account. It can no longer be a store of value.
- Money can be viewed as a "public good."
- Money is potential capital and as soon as it is legally combined with one factor of production its legal character changes to capital, and hence, is eligible for a reward in the form of profit, whose magnitude is neither fixed nor predetermined.
- The volume of money is dependent upon the economic capacity of the economy. Therefore, its supply can, in theory, increase indefinitely provided that the capacity allows.
- Banks act as shareholders and are therefore not capable or allowed to create either money or credit. They can only supply capital. Hence, the conventional required reserve ratio is irrelevant and its rate can go down to zero. Naturally, there would be no markets for money or loans in the system. If these conclusions are correct, then what is the use of talking about the money market (as do Khan and Mirakhor 1987:177 and Khan 1985: 12) or demand for money in an Islamic economy (see Chapra 1985: 209, for example)? Therefore, the appropriate policy followed by banks can no longer be called "monetary" policy but, rather, "financial" policy.
- Based upon the assumption that all capital expenditures are financed through banks, the opportunity cost of capital is zero.

- The ultimate result is that there can only be three markets in an Islamic system: labor, capital and commodity, in which their respective unit values are wage rate, profit rate and price level.

Certainty Condition

To develop a simple model, the following assumptions are made:

1. All investment projects are financed by banks and in accordance with *Musharakah* PLS contracts.[22]
2. Acting as agents of the depositors, the banks use their customers' deposits in any contracts signed, but do not utilize their own funds.
3. Banks collect commission from depositors on any contract signed on the agreed terms and conditions.
4. All deposits are instantaneously legally transformed into capital.
5. There is a common-fund pool (CFP) in the system and all depositors share in the prospects of all investment projects.
6. The depositors' share of profits is generally proportional to the size and the time length of their respective deposits. But profits can be shared in any equitable proportion agreed, not necessarily in proportion to capital.[23]
7. A depositor's principal is not guaranteed by the banks.

Assuming that (K) is the total capital to be invested in a project, (K_F) is the firm's (or investor's) share of capital, and (K_B) is the bank's share (that is, the depositors' share) then:[24]

$$K = K_F + K_B \qquad (6\text{-}4)$$

Further, where (π) is the total profits from which (π_F and π_B) are the respective shares of the firm and the bank, then:

$$\pi = \pi_F + \pi_B \qquad (6\text{-}5)$$

Under the stated condition of certainty, the expected profit $E(\pi)$ is the same as realized profits (π). The bank's relative share of profit (π_B/K_B) to that of its investors (π_F/K_F) is:

$$\alpha = \frac{\pi_B/K_B}{\pi_F/K_F} \qquad (6\text{-}6)$$

Altering the shares' (α) is found to be the most powerful financial policy tool for encouraging (or discouraging) potential investors to undertake (or forgo, as the case may be) new investments. Three distinct cases can be distinguished:

> **Case I:** In this case the overall economic policy of the Islamic state is such as to discourage potential investors.
>
> **Case II:** In which there is no preference by the government to go ahead or to go without the project; and
>
> **Case III:** Where the goal is to attract potential investors by offering them a profit share greater than their share in capital.

Assuming profit maximization for entrepreneurs (however objectionable), the demand for investible funds (D_I) can be written:

$$D_I = F(\alpha)\frac{dD_I}{d\alpha} < 0 \qquad\qquad (6\text{-}7)$$

It can further be assumed that the higher the depositors' share of profit, the greater would be the volume of deposit such that the supply of investible funds (S_I) is:

$$S_I = g(\alpha); \quad \frac{dS_I}{d\alpha} > 0 \qquad\qquad (6\text{-}8)$$

Drawing demand for and supply of investible funds in (α, I) space one gets a unique solution at the point of their intersection such as (E) in Figure 6.2.

Figure 6.2   Investment in an Islamic system (certainty condition)

Volume of Investment
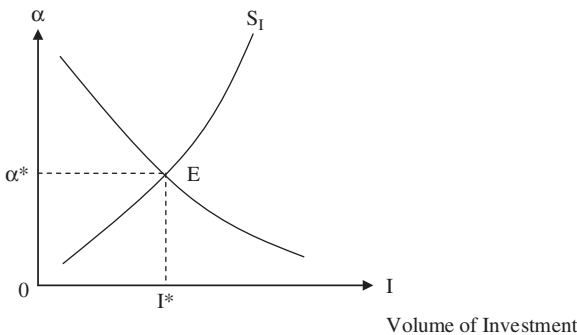
Defining $\bar{a} = \sum_{i=1}^{n} \frac{\pi Bi}{kBi}$, where n is the number of projects undertaken in an economy, it can be observed that:

At (α^*) the optimal amount of I is (I^*). By use of the assumptions made earlier, ($\bar{a}$) can be interpreted as the (weighted) average rates of profits in the common-fund pool (CFP) which would be distributed among depositors on the basis of the amount and the time structure of deposits made with the banks.

It might be useful to shed some light, however briefly, on the way the banks take action with respect to the distribution of profits earned among depositors. On the basis of our proposition to consider money as a "public good" and, hence, banks to be state-owned institutions, then all banks have to follow the same policy in regard to the distribution of profits, despite the fact that each bank may quite legitimately be assumed to earn different profit rates. That is to say, every branch of a bank should be considered to be representative of one whole; that is, "the Islamic bank," which is a "natural monopoly" with operations targeted to a well-defined social good: optimal public well-being. To follow a uniform policy requires that those branches (and/or banks) whose rate of profit falls below the weighted average be compensated by others—a practice we may call "financial federalism."

This analysis can be used to derive the aggregate demand for investment in an Islamic system which would, quite clearly, be different from that in the capitalist system.

Assuming the law of diminishing returns to scale, the conventional marginal efficiency of capital (MEC or rate of profit) schedule can be used to derive the demand for investment in this system, as follows:

To derive a continuous aggregate demand for an investment schedule, a large number of MEC schedules are needed. These then have to be arranged in descending order of the (expected) rate of profit; this array allows all investment projects to compete with each other. Three such schedules are illustrated in Figure 6.3.

Every point on each MEC schedule corresponds to the rate of profit (π/K) of one investment project. Investing different amounts of capital (different plant sizes) on one project (assuming continuity on the part of the investment function) gives rise to one MEC schedule.

Given this, there are assumed to be only three prospective projects open to a potential investor. He uses project (1) up to the scale (OT), but any further capital investment in this project can compete with project (2) of size larger than (OT) since any further expansion of

Figure 6.3   Derivation of aggregate demand for investment
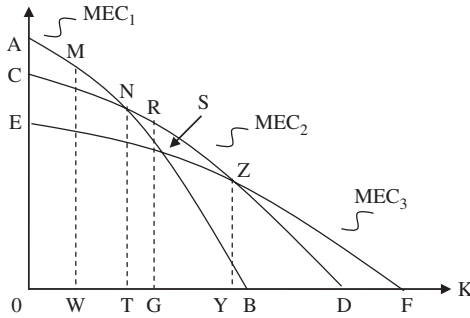
output would reduce the rate of profit on this project. The third project would be more profitable than project (2) of any scale larger than (OY). Therefore, the outer points of the three MEC schedules (that is, ANZF) is the *aggregate* demand for investment, not the demand for investment. It should be noticed that any other shape of the MEC curve is not of much interest. For example, if all points of MEC_3 lie below MEC_2, project (3) will definitely stay out of the investor's consideration.

Referring to the "array of opportunities" in the investment funct-ion, Junankar says that "this procedure is invalid since if one project has a higher return then profit-maximizing, entrepreneurs would invest in that and not on the other projects. As this happened, the investment course would flatten out over time (eventually becom-ing horizontal) as the return in different projects were equalized" (Junankar 1972: 23).

He is correct in identifying this curve as an aggregate demand function for investment but errs in his assertion that the investment

Figure 6.4   Derivation of aggregate demand for investment
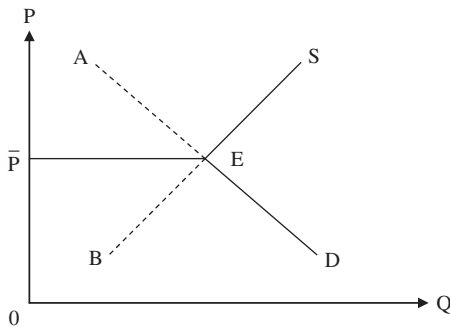
curve flattens out over time, eventually becoming horizontal. For his remarks to have any validity, he should also say that after the market has already been cleared for each commodity, those portions of a regular demand-supply schedule preceding the equilibrium point have to be disregarded because they become flattened out as consumers gradually buy the commodity. In other words, according to him the relevant supply and demand schedules of the curve in Figure 6.4 should be $\overline{P}ES$ and $\overline{P}ED$, respectively.

But what is really important in such analysis is the "gradual process" of reaching equilibrium. We are not much interested in the ultimate shapes of, say, demand and supply schedules in this case; however, there are some elements of truth in them.

Risk Condition

$$S_I = g(\alpha, \sigma), \frac{dS_I}{d\sigma} > 0 \qquad (6\text{-}9)$$

The state-owned bank's share of profit must also be reduced in order to compensate for the falling rate of expected profit to the investor, relative to its own share of capital.

The hypothesized equation (6-9) with its positive derivative with respect to risk, together with the other qualifications made above, is the most important treatment of the risk problem because it would certainly make prospects for investment expenditures much brighter. By doing this, the government would actually perform the duties expected of it because it cannot behave as a profit-maximizing agent.

Figure 6.5 Demand and supply for investible funds in an Islamic economy (risk condition)
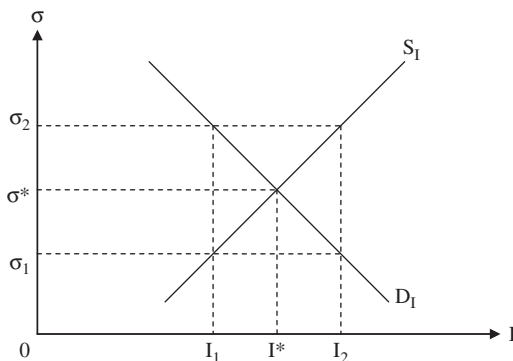
Figure 6.6   Equilibrium in capital market in an Islamic economy (risk condition)
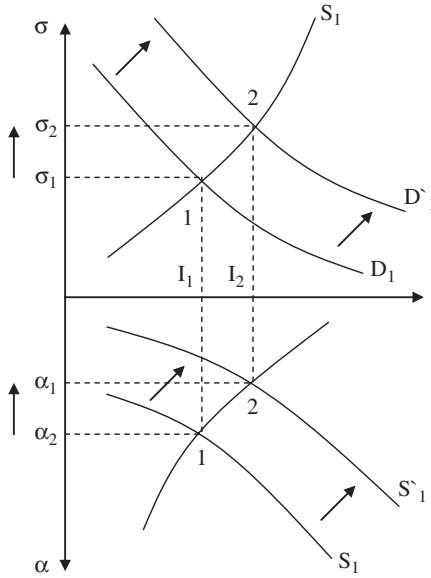
Potential investors are assumed to be risk averters; that is, for them to accept a higher risk, their expected rate of return must increase in the way stated above. Their aggregate demand for investible funds (D_I) in the presence of risk can, therefore, be written as:

$$D_I = f(\alpha, \sigma) \qquad \frac{dD_I}{d\sigma} < 0 \qquad\qquad (6\text{-}10)$$

Combining equations (6-9) and (6-10) gives rise to the following figure of aggregate demand and supply of funds in an Islamic system under risk conditions:

At a given risk of, say, σ^* the equilibrium volume of investment is I^*. At a lower risk (σ_1) there is excess demand for investible funds amounting to (I_1 I_2). But at a higher risk (σ_2) the hypothesis is that there should be excess supply of investible funds.

In order to see how the model works under different risk conditions, Figures 6.4 and 6.5 are combined to produce Figure 6.6, below:

Suppose, the economy is initially at the equilibrium points 1 and 1 in both panels. A new risk (σ_2) is introduced it the upper panel.

The risk conditions that have been initially caused by the government's overall actions will induce the government to supply more funds for investment (using the banks' own funds). This would shift

the supply curve in the lower panel from (S_1) to (S'_1). To compensate for the higher risk, the banks' share of profits relative to that of the investors has to be reduced. This reduction is reflected by a movement from (α_1) to (α_2) in the lower panel, which corresponds to point (2) of the same panel. To propose a higher rate of profit to potential investors would certainly induce them to increase their demand for investible funds, which is shown by an outward shift of the demand schedule for (D_1) to (D'_1) of the upper panel. (The magnitude of the shift of (D_1) depends, of course, on the magnitude of the reduction in α. Point 2 in each of the panels shows that in order to alleviate the results from a probable downturn resulting from the government's mismanagement or mistakes, we must find a way to compensate for the higher risk involved in such a risky situation.

This section has shown that Islamic banking offers a solution to this problem, something which the capitalist system has not been able to do, either theoretically or in practice. In the capitalist economy, the capital market is unduly and overwhelmingly overshadowed by the money market which, far from providing solutions to severe economic problems, impedes economic growth. To liberate capital, capital needs to assume its proper role—as is the policy in an Islamic economy.

PORTFOLIO MANAGEMENT FOR HOUSEHOLDS

Muslim households need to be advised on how best to manage their deposit account portfolios. Much depends on the individual's attitude to risk, which can fall into one of three categories: risk averse; risk neutral; and risk lover. A sensible approach would be to divide deposit accounts into two classes: common deposit, and preferred deposit.[25] Risk-averse depositors would be well advised to put their savings into a common deposit account (CDA), which offers a fixed and predetermined percentage of the real profit.[26] The risk-lover depositors could be encouraged to deposit their savings in the preferred deposit account (PDA), in which the real rate of profit is variable over time. The appropriation of total profits earned by the Islamic bank on behalf of both classes of depositors should be such that they are all distributed between them at the end of every fiscal year. The bank, of course, has the right to take its share of the total profits as a "fee" or any other *Riba*-free arrangement.

Because of its diversified policy in financing investment projects, the Islamic bank offers another option to risk-averse Muslim households. Take, for example, a situation in which a risk-averse depositor is faced with two stocks with different means and different standard deviations in their returns. The covariance (Cov.) of the two stocks—1 and 2—is:

$$\text{Cov.}(1, 2) = \Omega(1, 2).\sigma[1].\sigma[2] \qquad (6\text{-}11)$$

Where:

$\Omega(1, 2)$ = correlation coefficient of the two stocks
$\sigma[1]$ = standard deviation of the real return on stock 1.

If X[1] represents the proportion of income spent on stock 1, then we should have:
$$X[1] + X[2] = 1$$

We know that the variance [squared σ] of the portfolio (P) is:

$$\text{Squared } \sigma[P] = \text{squared}\{X[1].\sigma[1]\} + \text{squared}\{X[2].\sigma[2]\}$$
$$+ [2].X[1].X[2].\Omega[1, 2].\sigma[1].\sigma[2] \qquad (6\text{-}12)$$

If we assume, for simplicity, that the real returns on these two stocks are perfectly correlated, i.e. $\Omega[1, 2] = \Omega[2, 1]$, then (6-12) reduces to:

$$\text{Squared } \sigma[P] = \text{squared}\{X[1].\sigma[1] + X[2].\sigma[2]\} \qquad (6\text{-}13)$$

And

$$\sigma[P] = X[1].\sigma[1] + X[2].\sigma[2] \qquad (6\text{-}14)$$

If we further assume that X[1] = 0.9 and X[2] = 0.1 and $\sigma[1] = 15$ and $\sigma[2] = 0$, then:
$$\sigma[P] = 13.5.$$

This means that if a risk-averse depositor decides to buy stock 1 whose standard deviation is 15, he will put his savings in an Islamic bank which uses the deposits in the two firms (1 and 2) where standard deviation is less than the purchase of one stock. In

general, because Islamic banks diversify their risks through financing thousands of investment projects, this reduces the risk for individual households investing their savings in one specific project or stock. Therefore, Islamic banking is more attractive to Muslim households than primary markets.[27]

The risk-averse household can thus choose to put its savings into a CDA, rather than transacting on the Islamic stock market. In this way, Islamic banking promotes the "real" capital market without having to engage in the money market.

NOTES

1 Khan 1985: 2.
2 Ibid.: 19.
3 Ibid.: 1–2.
4 As we have seen, Keynes believed that the sole determinant of a positive money-rate of interest is speculation in the money market. Ackley notes that "many (perhaps most) later Keynesians have agreed with Keynes' own apparent judgment that the really crucial cause of unemployment was the speculative demand for money" (Ackley 1961: 405). As this book has stressed throughout, it is vitally important that Muslim economists look again at the relationships which comprise the money market; that is, between the store of value or idle balances, lending money, and liquidity preference.
5 See Toutounchian 1989.
6 See Toutounchian 1988.
7 See Khan 1985: 7.
8 For a situation in which the size of the firm is indeterminate, see Hadjimichalakis 1982: 476–7. The indeterminacy of investment demand by a price-taking firm operating under constant returns to scale was noticed as early as 1937; see Kalecki 1937: 440–7. Kalecki was not successful in his treatment; see note 12.
9 See Toutounchian 1992b.
10 Ackley 1961: 158.
11 See his essay "Interest Inelasticity of Investment Demand—The Case from Business Attitude Surveys Re-examined" in Mueller 1966: 95–113.
12 In a Conference on Business Cycles; National Bureau of Economic Research; N.Y. (1951): 233–304.
13 See his "Comment" on "The New Monetary Policy and the Problem of Credit Control" and "Monetary Policy and the Crisis," *Bulletin of Oxford University Institute of Statistics* (April–May 1952) xiv: 158.
14 White op. cit.: 113.
15 It seems rather naïve to use "profits" rather than rate of profit in that the absolute value is not expected to play a significant role. Using rate of profit as a value relative to the amount invested would have given better results.
16 We have already demonstrated that profit maximization is not compatible with equity as far as the remuneration of labor is concerned.
17 See, for example, Tobin 1958 and Hadjimichalakis 1982.
18 See Kalecki 1937; 440–7. Kalecki gave "two reasons for the increase of marginal risk with the amount invested. The first is the fact that the greater the investment of an entrepreneur, the more is his wealth position endangered in the event of unsuccessful business" (Ibid.: 442). My observation is that despite Kalecki's use of the term "marginal risk," what he probably intended was "total risk," because an entrepreneur's wealth would also be more endangered by a constant "marginal risk" combined with a great amount of investment. Furthermore, he was not clear why greater investment meant greater "marginal risk." It seems more likely that the greater the amount of investment, the more access the entrepreneur would have to better information and

opportunities which would mean a reduction in "marginal risk." Besides, in order to prove or disprove Kalecki's proposition, one needs to study the data as to whether the degree of bankruptcy is higher among large corporations. It seems that he did not impress all Western economists. For example, Hadjimichalakis made the following comment: "Kalecki was just interested [!] in deriving a determinate [and downward-sloping] demand for investment, still assuming pure competition." (Hadjimichalakis 1982: 476). Brackets and their contents added by this author. On the other hand, Professor Abba Lerner claimed (Lerner 1944: chapter 25) that capital is actually heterogeneous and that a firm would have monopsony power in the market for the investment good it purchases. As a result, the firm would face a rising marginal cost of investment goods, from which he was able to derive a declining marginal efficiency of investment schedule. Again, it can be seen that Lerner did not solve the original problem (that is, pure competition) but, rather, changed the problem to one of monopsony.

19 Kalecki used two horizontal lines parallel to each other to show the indeterminacy problem. Then, by adding his "principle" separately to either one of these two lines, he derived his intended demand schedule for investment. However, this present analysis has ignored the problem and used the standard analysis to embark upon other observations.

20 Schumpeter's terminology for the leisure class (Schumpeter 1950: 192).

21 This and all subsequent references to the *Quran* are based on Yusuf Ali 1975.

22 With all the characteristics envisaged by Chapra 1985: 251–2.

23 Losses are assumed to occur only under risk conditions. However, in such cases, losses must be shared in proportion to capital contributions (see Chapra 1985: 252).

24 Assuming existing capital to be zero then in $I_t = K_t - K_{t-1}$ we have: $K_{t-1} = 0$ and $I_t = K_t$ which measures the total amount of capital invested.

25 See Toutounchian 1379 = 2000/01: 796–8.

26 It should understood that any fixed and predetermined percentage is not necessarily *Riba*, because the percentage has to be taken directly from the real profits the Islamic bank earns on behalf of depositors from all Islamic contracts. It has to be remembered, too, that depositors have not lent money to the bank in return for a fixed income: there is no involvement with *Riba*. There is an urgent need for new research with respect to portfolio management. This should account for all three classes of depositors and be based on two categories of Islamic contracts: one with a fixed return (such as Installment Sales) and the other with the variable returns applicable to *Musharakah* and *Mudarabah* contracts.

27 For further details, see Toutounchian 1379 = 2000/01: 505–10.

The Role of Central Banks in Islamic Banking

> *People want the moon... [M]en cannot be employed when the object of desire (that is, money) is something which cannot be produced and the demand for which cannot be readily choked off. There is no remedy but to persuade the public that green cheese is practically the same thing and to have a green cheese factory (that is, a central bank) under public control.*
>
> J. M. Keynes[1]

REVISING ROLES: LEARNING FROM EXPERIENCE

As we have seen in earlier chapters, serious doubts have been cast over the ability of the capitalist system to be self-regulating and self-correcting. Our main concern here is with the monetary sector—the Achilles heel of capitalism. Despite its manifest weaknesses, attempts have been made (and continue to be made) to demonstrate that it is not the system itself that is wrong but, rather, the policies employed within it. In remarks on the ninetieth birthday of Milton Friedman, Ben Bernanke related the economic collapse of 1929–33 to "the product of the nation's monetary mechanism" and pointed out how, according to Friedman and Anna Schwartz,[2] "money was a passive player in the events of the 1930s" (Bernanke 2002: 1). Bernanke admired their ability to disentangle skeins of cause and effect, believing that they "laboriously built the case that the causality can be interpreted as running (mostly) from money to output and prices, so that the Great Depression can reasonably be described as having been caused by monetary forces." Friedman and Schwartz made a case for the monetary changes that could reasonably be construed as "exogenous." The Federal Reserve began to tighten monetary policy in the spring of 1928, Bernanke said, because of its "ongoing concern about speculation on Wall Street." [3]

Some brief comments on Bernanke's assessment of the Friedman-Schwartz (F-S] analysis of the Great Depression are perhaps called for here:

1.   The F-S analysis places the entire blame on the "tightening policy"; but why should this be the case? Bernanke, presenting the conventional banking case, says that this was the result of going "from money to output" (that is, $\Delta M \rightarrow \Delta Q$, as discussed earlier). As I see it, this causes the ongoing system to be vulnerable and is the outcome of money being exogenous to the system, giving money the role of a leader to be followed by other economic variables. Our earlier discussion on the historical development of money, however, shows that commodities come first, and then money can be increased to ease the transactions.

     What is causing what? Are changes in the money stock largely causing changes in (price and) output, as F-S concluded? Or is the stock of money reacting to changes in output? Throughout this book, we have attempted to show that the correct movement is from output to money—that is, $\Delta Q \rightarrow \Delta M$—rather than the other way round. As long as money is treated as an exogenous variable, the economy is unlikely ever to reach equilibrium.

     Of course, it is impossible now to prove that if the F-S diagnosis had been followed by the Fed, the Great Depression would not have occurred. Table 7.1 below shows the 10 worst U.S. stock-market crashes (up to but not including those being experienced at the time of writing, that is). The Great Depression lasted 813 days, and the crashes of 1939–42 and 2000–02 lasted 959 and 999 days, respectively. Is the F-S analysis capable of explaining these two crashes?

2.   Governor Bernanke referred on different occasions to speculative activities. Given that these activities really happened, how can a monetarist explain this, keeping in mind that the monetarist reaction against the *General Theory* was to attack Keynes' various theoretical formulations, especially the liquidity preference theory of interest rates? Does this mean that if an easing of monetary policy had been followed instead, the Great Depression could have been avoided? According to Gail Makinen:

Table 7.1 U.S. stock market crashes

Start to End	Total Loss (- %) Using DJIA*	Total Days
1) 6/17/1901–11/9/1903	46.1	875
2) 1/19/1906–11/15/1907	48.5	665
3) 11/21/1916–12/19/1917	40.1	393
4) 1/3/1919–8/24/1921	46.6	660
5) 9/3/1929–11/13/1929	47.9	71
6) 4/17/1930–7/8/1932	86.0	813
7) 3/10/1937–3/31/1938	49.1	386
8) 9/12/1939–4/28/1942	40.4	959
9) 1/11/1973–12/6/1974	45.1	694
10) 1/15/2000–10/9/2002	37.8	999

*Dow Jones Industrial Average
Source: Internet, Stock Market Crashes, prepared by Dustin Woodard

From the viewpoint of theory, nothing prevents the central bank from exercising control over the money supply in the Keynesian model... [M]any Keynesians would deny that historically money supply has, in fact, been exogenous... During some historical periods, especially the great contraction of 1929–33, some Keynesians (including Keynes himself) argued that... the contraction was due to an absence of borrowers, thus reverting back to the idea that supply of money is demand-determined. (Makinen 1977: 228)[4]

What Table 7.1 does not show, and what cannot be ignored, are the total social costs involved or the number of families hurt by the Great Depression. To these and similarly important questions we will return soon.

The speculative demand for money is also hard for monetarists to explain. As Gail Makinen put it:

It is the existence of the speculative [or asset] demand for money which poses the real difficulties for the quantity theorist. These difficulties are two in number and related to the supposed instability of the function caused by changes in expectations about the future or normal

rate of interest and the existence of a liquidity trap. Both problems have the potential for robbing monetary policy of its effectiveness and certainty. With this potential destroyed, the quantity theorist's principal tool for stabilization disappears. (Ibid.: 212)

Speculation, in any market, cannot be brushed aside without challenge.

While the Friedman-Schwartz analysis may have merit, overall, it is less convincing than Keynes' diagnosis. However, there is a very important lesson that can be learned from both theories: in order to avoid mishaps in the economy, money has to be integrated into capital theory.

The contribution of monetary policy to economic growth was addressed by Lucas Papademos, Vice-President of the European Central Bank, in June 2003. The following section is based heavily on his paper (see Papademos 2003).

In order to foster economic growth in Europe by way of finding a solution to the weak performance of the European economy over the previous 20 years, Papademos made it clear that both an accurate diagnosis and an appropriate policy prescription were required. In doing so, he raised a number of questions regarding monetary policy: Can it contribute directly to the attainment of a high but sustainable rate of growth? Can it promote economic growth indirectly by maintaining an environment of price stability? Can it influence the pace of growth effectively over the short and medium term, and thus help stabilize output fluctuations consistently with its overriding objective of price stability?

In his admirable analysis, Papademos pointed out the key issue in monetary theory: whether changes in the stock of money or in the rate of growth of money can have lasting effects on real economic variables. He was, in fact, looking at whether such causality ever existed and referred to the issue—still unsettled after more than four decades—concerning the so-called superneutrality of money; that is, whether a permanent change in money growth has no long-term effects on the real interest rate, capital accumulation and output growth. Reviewing theoretical propositions initiated by Professor Tobin, he concludes that "different hypotheses about the functions of money imply conflicting conclusions about the size and of the permanent effect of monetary expansion on growth." (Tobin 1965) The relationships between money, inflation and growth derived from

traditional growth models also came under consideration. It had been found that "because higher inflation lowers the return on work, it leads to a temporary decline in the supply of labor. Since human capital is thought to benefit from a 'learning by doing' effect, this decline in labor supply reduces human capital and thereby lowers the growth rate of the economy" (Gomme 1993). Papademos also cited the results obtained by Jerome Stein from a survey of the literature available at that time who noted that "my main conclusion is that equally plausible models yield fundamentally different [and inconclusive] results" (Stein 1970). Similar and more recent reviews have reached much the same conclusion (see Orphanides and Solow 1990), with one (Haslag 1997) noting that these views about the inconclusive nature of money and growth theories may be warranted when one reviews the whole spectrum of models in a neutral way; that is, without assessing the realism of underlying assumptions.[5]

A clear majority of studies find that inflation and long-run growth are systematically and negatively related. On the basis of such findings, Papademos commented:

> The costs of inflation, including the costs resulting from the features of the economy's institutional structure, clearly imply a negative impact of inflation on growth. Moreover, the increased uncertainty due to high and variable inflation impairs the efficiency of the price mechanism and can be expected to reduce both the level of and the rate of increase in productivity and thus economic growth. (Papademos 2003: 3)

A more serious problem lies in the robustness of the empirical results themselves because "it was found that slight variations in the specifications of [the] regressions lead to substantially different results."

The debates on wage rigidity, inflation, unemployment and growth are unresolved but such arguments and results have been used to provide justification for allowing the central banks to encompass low positive rates of inflation in their definition of price stability rather than literally aiming for a stable price level. Nevertheless, Papademos did not believe that:

> the evidence about "greasing the wheels" of the economy is sufficiently convincing compared with the favorable effects of price stability. Even if some trade-offs have been found statistically to exist between inflation and output

at very low rates of inflation, it is not clear at all that
they are either stable—and would therefore persist during
a prolonged period of price stability—or that they could
successfully be exploited by policy makers. (Ibid.: 4)

In short, monetary policy cannot be expected to directly contribute
to raising long-term economic growth. The question of whether
monetary policy should seek to stabilize output around its potential
growth path in the short and medium term has been one of the most
widely debated issues of economics since Keynes made the case for
stabilization policies. The long-term decline in U.S. output volatility,
a phenomenon which can be traced back at least to the 1950s, has
been pointed out (see Blanchard and Simon 2001) but Bernanke failed
to refer to the phenomenon as evidence of the inability of monetary
policy to stabilize the economy.

While output volatility has declined in many industrialized
economies in recent decades, the size and frequency of several types
of shocks cannot be controlled. There are also reasons to believe
that structural changes may have created new sources of instability
that policymakers need to monitor very closely. In particular,
the role of asset prices in the economic cycle has received a lot
of attention recently. Financial markets have gained markedly in
importance during the last decade. One implication of the growing
size of stock markets is that changes in equity prices are likely to
have a more pronounced impact on the economy than in the past.
While Papademos believes (somewhat dubiously, in my view) that
the development of financial markets should, in principle, improve
the allocation of resources, economists have long been aware that
financial markets are characterized by periods when virtual asset
prices tend to deviate significantly from the equilibrium (that is, real)
values. Such situations have implications for economic activity and
can generate or accentuate output fluctuations.

It has been made clear throughout this book that Western financial
markets are essentially money markets built on speculation. They
produce instability via artificial risk and, by creating virtual, rather
than real, wealth, distort the allocation of resources. It is a zero-sum
game that leads to an inequitable distribution of income and wealth
and prevents the economy from moving toward equilibrium.

Papademos concluded that:

…the conduct of an activist, fine-tuning countercyclical
monetary policy involves more risk than potential benefits

> and should be avoided under normal circumstances... [A]
> monetary policy would have to be implemented care-
> fully and consistently with the central bank's commitment
> to its primary objective of maintaining price stability. It
> should also be communicated effectively so that public
> expectations and the central bank's credibility would not
> be adversely affected. (Ibid.)

Past experience has shown that the constant manipulation of inter-
est rates in the money market by the central banks of industrialized
countries has both greatly damaged their credibility and produced
uncertainty in the real sector. As long as the central banks adhere to
such damaging policies, the situation will only get worse.

These brief observations on two monetary authorities on different
continents only serve to reinforce the view that all kinds of specula-
tive activity have significantly damaged the capitalist economies and
produced a contaminated environment in which the correct diagnosis
of economic problems has become almost impossible for Western
economists. By looking for a remedy in the wrong place, many have
been stranded among inconclusive evidence regarding the effective-
ness of monetary policy. The result is that, at the time of writing, the
global economy is experiencing a downturn of a magnitude not seen
since the Great Depression. The capitalist system has built skyscrapers
on sand and is vulnerable to further shocks.

REVISIONS (BEYOND AMENDMENTS)[6]

The prevalence of stagnation in today's capitalist world is unprece-
dented. Business cycles were played down in the past, but have reached
such an intensity that they can be treated this way no longer. This
is especially true in a world in which communications have brought
countries closer together, willingly or not, to conduct their economic
relations.

It was once believed that the capitalist economy would be
self-regulating and self-correcting, but the intensity and frequency of
economic fluctuations have made even the most ardent of economists
withdraw from such claims. The greed and selfish consumption
that underlies the system has disturbed the ecological balance in
a way that poses a massive threat to all mankind, a threat whose
magnitude could have never been imagined by the great architects of
the Scientific Revolution. Despite the scientific community's repeated

warnings about the vast potential for catastrophe, the irresponsible exploitation of natural and human resources is perpetuated by a system which secures the benefit of a few at the expense of the overwhelming majority of the planet's population. There is a rising tide of public dissatisfaction and disgust with such behavior. The "Greed is good" mentality which has predominated in the capitalist world, particularly since the 1980s, is under challenge.

The United States represents the prototype of a purely capitalist country. While the sheer size, power and complexity of its economy put it in a category of its own, this does not mean that its manifold problems are confined within its shores. Quite the opposite, in fact—to which the worldwide ramifications of the recent U.S. sub-prime crisis will attest. Nevertheless, the uniqueness of the American economy requires that a few specific comments be made about it.

There is endless discussion among economic theorists and experts of America's federal budget deficit, its negative current account balance, its lack of investment, and the bursting of the financial bubble. But for all the talk, these theorists fail to acknowledge that the capitalist economy intrinsically tends toward recession. They may admit that the economic growth rate has been falling since the 1960s, but they attribute this to bad policy, rather than seeing it as a reflection of a general process of modern capital accumulation.

The rapid growth of the 1950s and '60s was the result of people saving during World War II and the second wave of industrialization in such things as steel, glass and rubber for the automobile industry, in the construction industries and in the interstate freeway network.

Added to these were the economic stimuli created by two regional wars in Asia, and the extraordinary increase in sales related to modern marketing techniques. Most of these factors have either completely vanished (along with people's savings) or have reached the point where they can no longer be considered as major stimulants for economic growth.

During the 1980s, the main economic stimulant was the expansion of the financial superstructure of the U.S. economy through huge advances in the electronics and computer technologies that gave birth to the Internet. These factors, too, have weakened following the bursting of the stock market bubble and a decrease in investment in these industries.

Unemployment, too, is a continuing source of concern in the U.S. During the economic downturn in the early years of this century, the *New York Times* reported in February 2003 that employment

was at its lowest for 20 years and, since the beginning of the crisis two years earlier, had lost more than 20 million job opportunities. Given that the official statistics—which for January 2003 showed 6.5 percent unemployment—do not include those who, confronted with the prospect of prolonged unemployment, stop looking actively for jobs, or those who work part-time yet want full-time work—the real level of unemployment was probably closer to 11 percent. By October 2007, the corresponding figure provided by the Bureau of Labor Statistics was around 5 percent, which again emphasizes the cyclical volatility that characterizes the system.

In spite of lowering interest rates to historically low levels on several occasions in recent years, the Federal Reserve has failed to stimulate investment. This is not surprising since, as we saw earlier, what determines investment volume in the new output capacity is the prospect of gaining investment profit in the future.

Recent events should help persuade Western economists (both Keynesians and monetarists) that investment is not a function of interest rate and should stimulate them to search for another factor, a factor that is responsive in normal as well as in risk conditions. This search should direct them toward interest-free (Islamic) banking, where interest rates are replaced by profit rates and attention is given to both the supply side and the demand side simultaneously. We should bear in mind that business cycles are rooted in money and are related to interest, which is the result of speculation.[7]

As we saw in earlier chapters, the two main issues that should concern all economists are those of equity (justice) and efficiency. Between the two lies a trade-off area. Under capitalism, the emphasis is on efficiency and equity is a spillover that will somehow emerge in the process of economic growth. But consider the position in the United States, where "the richest 1 percent of households owns 38 percent of all wealth... [and] wealth inequality has a Gini coefficient of 0.82, which is pretty close to the maximum level of inequality" (Wolff 2003: 1–2). Where is the equity in that, and why is it that after the passage of more than 200 years justice has not yet emerged?

The socialist system claims to have justice as its goal and regards efficiency as a byproduct. Yet it has a mistaken image of justice. The socialists' error is that they do not respect private property. Proudhon's famous assertion that "property is theft" is used to justify the belief that ownership is always obtained through theft. However, he did not attack private property as such. "On the contrary," argues Eric Roll "... he regarded property as an essential condition of

liberty'' and saw justice—''the supreme principle of human life''—as an equilibrium of opposing forces (see Roll 1961: 242).

The issue of equity is the issue of rights, including the right of the owner of capital (not money) to possess and enjoy the results gained through the utilization of that capital. Neither is the issue of justice applicable only to workers; it must encompass all members of a given society. Even when economists talk about efficiency they implicitly consider equity. Specifically, the welfare cost of inflation, which has occupied a considerable volume of economic literature, is mainly targeted toward ensuring the least damage to society. This is nothing other than justice (equity).

In Islamic economics, the rights of people and those of ''things'' have been defined prior to and after the distribution of wealth and justice as an uncompromising goal for all members of the community. Where there is justice as people like Rawls and Gauthier interpret it, all things are in their proper places and it is not difficult to demonstrate that this produces optimality. The resulting corollary is that simultaneous access to both stable prices and full employment is attainable. Meanwhile, the natural course of affairs which results from the application of justice will create a state of equilibrium between human psychological needs and the surrounding environment (something the capitalist economy has been unable to attain).

History shows that ever since mankind achieved this understanding of justice, he has struggled against interest—a struggle that pre-dates Christ by hundreds of years. (In this regard, note that usury was repugnant to Aristotle.) The economic literature throws up many examples of serious thinkers who rejected interest. Roll tells us that Proudhon believed that ''interest being abolished, exploitation through property is abolished, too'' (Roll 1961: 244). In the serious scientific discussions of zero interest in the 1930s, Gesell came up with the idea of ''stamped money'' as a means of omitting interest from the economy (Gesell 1934:129–41). In 1947 Maurice Allais reached the conclusion that the optimum real interest rate is zero.

Professors Pesek and Saving (1967) argued that if money were to bear interest, it would cease to be used as money. Professor Friedman (1969), too, reached the conclusion that zero nominal interest rate is a necessary condition for efficient resource allocation. Later, economists working for the U.S. Federal Reserve showed that zero interest is both a necessary and sufficient condition for efficient resource allocation (Cole and Kocherlakota 1998: 2–10).

These results come as no surprise to Muslim economists. Yet the question remains as to how banks would operate under these circumstances. If Friedman's proposal (Friedman 1966: 339) of a legal reserve ratio of 100 percent for the purposes of economic stability is adopted, what form will banking assume? Despite their efforts, none of these economists has yet found an answer to this vital question and mankind has paid a heavy price for this failure.

This book has argued that the Islamic model of economics, which shows the way to those who believe in the unity of Almighty God, is the safest and the least costly of all, a view that is perhaps reinforced by the fact that an increasing number of capitalist economies are now turning their attention to Islamic economics and, in particular, to Islamic banking.

At this juncture, I would like to review the main challenges facing Muslim economists and the prospects that Islamic economics opens up.

Challenges

- We must gain the courage to implement the Divine Rules in the form of logical models that can be presented coherently to the world's scientific community. Though these rules have remained, unchanged, for centuries, serious analytical research on Islamic banking goes back 50 years at most. The world expects us to do more. We should expect more of ourselves.
- While the principles and benefits of Islamic banking have been the subject of many articles and seminars, very few of these benefits have been enjoyed because so few Islamic nations have put these principles into practice.
- The reaction of Western economists to Islamic banking theory has been somewhat muted. This may be partly attributable to differences of perspective and approach among Muslim economists. However, many economists—Muslim and non-Muslim—have used the Islamic lexicon and contracts to conceal capitalist economics. For example, given that interest is overtly banned in Islam, how can a noted economist discuss the LM curve, money market, and their derivatives? It is the same when many articles discuss loans (not *Qard ul-Hassan*). In the legal definition of a loan, the obligatory payment of surplus on the part of the borrower is interest per se, which is *Haram*. As we have seen, a loan in itself does not involve profit; rather, it is capital that produces the profit. Or,

similarly, when discussing the opportunity cost of capital in Islamic banking, Muslim economists, imitating their Western colleagues, consider a positive figure, rather than zero.

- Distinguishing the money market from the capital market is not an easy task, and we would do well to heed Joan Robinson's warning "not to acquire a set of ready-made answers to economic questions, but to learn how to avoid being deceived by economists." Our goal must be to convert an M–C–M relation into a C–M–C, because it is the capital market that fosters economic growth. Keynes demonstrated that interest is the necessary and sufficient condition for speculation. But there are still those who make a distinction between interest and *Riba*, arguing that what is prohibited in Islam is *prohibitive* interest, *Riba*, and that small interest is not *Haram*!

- Some Western monetary theorists, having glanced through articles on Islamic banking models written by Muslim economists who have failed to understand the full implications of the underlying principles, have found these models to be very similar to capitalist banking and are more than happy to proceed on that basis.

- The flawed reasoning of some Muslim economists has led Western scientists to suppose that, in banning interest, our position is similar to that of socialists in that we would maintain there must be no return attached to capital. They have failed to note our true position—that interest is the return attached to money, while profit is the return to capital. Under an Islamic framework, there can be no money market and thus no derivatives thereof. This sets limits on the transactions in a securities exchange market (bonds, for example, would be absent because of the interest they acquire). A securities exchange market in which stocks are exchanged on a speculative basis is a money market, not a capital market. A money market, by definition, has short-term loans as the basis of transaction. Thus, even if stocks are transacted in such a market, the intent of the buyer and the seller is to receive income, which is obtained—sometimes on a daily basis—through the difference on the price of stocks transacted. This being the case, the same M–C–M relation persists, in which the stocks function as "C." Under Islamic rules, the buyer is entitled to know exactly what he is buying. In current securities exchange markets, this is not the case.

- While the capitalist economy is beset with many problems, the social capital in the capitalist nations is stronger than in the developing Islamic countries, the significance of which should not be underestimated. We should be able to prove that not only will these problems be solved in the light of Islamic banking but also that new fields will be opened in the process. One of the conditions to attain sustained growth (development) is the equitable distribution of income and wealth. Capitalism is faced with a conflict between efficiency and equity. In Islamic economics, there is no higher goal than establishing justice and fairness. We should be able to demonstrate that through implementing the Diving Rules of Islam, by which efficiency is attained, we can also reach equity. Islamic banking will accelerate this goal. We should also remember that the Islamic community is a *cooperative* entity, in the wider sense of the word. Western economists have recognized the fact that the capitalist economy is unable to increase aggregate demand (AD) and aggregate supply (AS) simultaneously. That is why their monetary and fiscal policies cannot escape from stagnation and unemployment. Cooperative Islamic economics, particularly where Islamic banking is concerned, is capable of such a task, and again we should demonstrate this capability.

Prospects

- Profit-and-loss sharing (PLS), as a principle, constitutes the backbone of Islamic banking. The expansion of this principle throughout a community transforms that community into a Grand Cooperative System within which each individual exerts the utmost effort and thereby, through benefiting others, gains benefit. If the interaction of individual efforts were utilized in a proper way, then the community's welfare would be high enough not to let these interactions be mutually exclusive. This is also true of a workers' remuneration scheme through which workers can share the profit gained by the Islamic banks' contracts with productive firms. In addition, the depositors will enjoy the profit gained through the banks' participation with investors, bearing in mind that the rate of profit is frequently higher than that of interest. These factors will help the equitable distribution of income and wealth; the necessary condition for sustained growth. The price of manufactured goods would fall

as a result of price decreases arising from the abolition of interest and as a function of a decrease in wage expenditure brought about by workers' participation in profit. Such a policy will enable a simultaneous increase in AD and AS. In addition, the investment multiplier has been shown to be substantially higher than that in the conventional system.[8]

- We noted earlier Professor Weitzman's erroneous belief that workers' participation in production would "conquer" the stagflation inherent in capitalist societies—this despite the fact that workers' participation is incompatible with the elementary principles of capitalism. Quite apart from this elementary confusion, Weitzman neglected the fact that interest constitutes the prime fallacy of the capitalist societies and leads only to more complex and larger fallacies. It is difficult to envisage that Islamic economics, having eliminated such a fallacy, would encounter similar problems.

- In the existing literature, we possess more than sufficient criteria and procedures to act upon for modeling purposes.

- Having banned interest and all its attendant baggage, Islam attempts to emancipate *all* men from the exploitation of wealthy individuals. Through the establishment of Islamic banking, the necessary condition for full employment (that is, the equality of saving with investment) will be created. We should not be misled by Japan's experience. There, although the central bank interest rate remained as low as 0.5 percent in the year to February 2008, unemployment rose from 3.6 percent to 4.2 percent in the period from July 2007 to August 2008, inflation went from 0.3 percent in October 2007 to 2.1 percent in August 2008, and GDP growth slumped from 3 percent in March 2006 to 0.7 percent in June 2008.

  Two reasons can be offered for Japan not reaching full employment (despite workers' participation in profit or income gained by productive firms). First, Japanese banks do not operate on the basis of participation; rather they lend and borrow loans (that is, they function as fund intermediaries) as in any other capitalist system. Second, the stock exchange (of bonds, stocks and commodities) is as active as ever. Speculation in these markets creates interest in terms of the same goods. In other words, interest has not been eliminated in its wider sense in Japan. The mere existence of these interest rates creates a money whirlpool, which has prevented the equality of saving and

investment. In short, the further removed an economic system becomes from the capital market, and the closer it gets to the money market and its derivatives, the more unstable it becomes.

- A general equilibrium model can be constructed in which there would be three markets—labor, capital, and commodities—on whose coordinate diagram the ratio of the profit rate (Alpha, α) and national income can be demonstrated.

- The world has come to realize that capitalism is not a self-regulating or self-adjusting system, and that capitalist economic models are based upon disequilibrium. The time is right for Muslims to use this historic opportunity to devise and present a logical Islamic banking system.

- As Muslims, we can be proud of the research that has been done in recent years in the field of Islamic economics and banking: its growth has, in many cases, exceeded all expectations.

In an attempt to find solutions to the many economic difficulties that have beset the capitalist nations in recent years, Western economic theorists have tried injecting various measures into the ailing system. Among these injections, we can point to labor unions, syndicalism, the creation of cooperatives, and The Share Economy. To this list has been added a scientific approach to Islamic banking.[9]

But these are short-term solutions and do little more than dress the system's wounds. The only sure, long-term remedy, I believe, is offered by Islamic economics. Islam and its Divine Rules are not nation-specific; they contain the message of hope for all men in all nations. Mankind has paid a heavy price for neglecting these rules and it is the responsibility of Muslim scientists to present mankind with an alternative route. With closer cooperation between scientific figures in Islamic and non-Islamic nations, this goal is attainable.

THE ROLE OF THE CENTRAL BANK IN ISLAMIC BANKING

> *Ideologies...affect the topics discussed, the manner of discussion, the factors included or left out or inadequately stressed in arguments, comments, and models and attitudes shown, sympathetic or hostile...to past and contemporary economists' works and views.*
>
> C. G. Harcourt (1969)

In some ways, this section is a recapitulation of the ideas expressed in the previous chapters in that Islamic banks have to pursue the guidelines made by the Islamic Central Bank.

The argument here is based upon the following primary and secondary assertions. These assertions and the final conclusion may seem rather unorthodox, but they are the product of their own logical reasoning.

ASSERTIONS

1. In economics, we are basically dealing with two interrelated concepts—one legal (or conventional), the other real. All contractual agreements such as marriage, ownership, organizational hierarchy, money, interest and the like fall into the first category; while human-beings, commodities, buildings, amenity and the like are included in the second. Each of these concepts is able to produce the other or be transformed into itself. Let us call these two properties "Completeness" and "Reflexivity," respectively. Hence, money, being a legal concept, is capable of producing another legal concept (actually its derivative) called "interest" or a real concept such as capital equipment.

2. Money as potential capital is a legal concept capable of being transformed into actual capital. A simple example given earlier is that of a *Mudarabah* contract, in which as soon as one person's money is legally combined with another person's labor, the nature and the function of money is changed into capital. The higher the speed at which the stock of money is transformed into the flow of capital, the higher will be the rate of economic growth. This is the most important task of the Islamic Central Bank.

3. The various modes of contract available to Islamic banks are the major means of transforming the money deposits of individuals and firms into capital (or assets). Any financing under any mode of contract will essentially increase the value of the economy's assets. However, some modes of contract (*Musharakah* and Installment Sales (originated by firms), for example) increase the productive capacity of the economy. Again, any positive change in a firm's asset values (rather than their capital values, which is a vague concept responsible for

considerable confusion) can be called "investment." Following this practice, it is easy to calculate with a high degree of precision the amount of investment which has taken place in an economy during any specific year. This can be done by reading the asset values off the current balance sheets firms submit to tax authorities. Putting asset values, rather than capital, into the production function makes it more precise and meaningful. A firm's rate of profit is, hence, logically defined as the ratio of profit to their assets. Since the value of the assets is normally greater than the value of capital, defining the rate of profit as the ratio of profit to the value of capital underestimates the true rate of profit.

4. Speculation, which necessarily entails artificial risk in any market, is not permissible in an Islamic setting. A corollary to this is that with the disappearance of the bond market stocks are expected to be exchanged in an Islamic stock market based upon their book values. In a stable price system, the market to book value becomes unity, because in an efficient Islamic stock market, the book value of shares reflects all relevant facts about a firm based on its assets.[11] Tobin's Q becomes irrelevant in that it uses "debt," which is non-existent in an Islamic context. One implication of this is that in a world with perfect markets valuing the firm would be easy; that is, we could read the economic value of the firm off the current balance sheet. Risk is essentially interwoven with investment. It can be considered "natural" and can be accounted for, and thus is permissible in Islam. However, the impermissibility of artificial risk is grounded upon the fact that any income received by a speculator will eventually bring about excess demand for goods and services (without the speculator having any share in productive activities). This excess demand can, in turn, be proved to become the main source of inflation.

   As Professor Ackley has pointed out, speculation—if mistaken—tends ultimately to be self-correcting in any commodity market; and the real cause of unemployment is speculative demand for money (Ackley 1969).

5. The unique and powerful tool of financial policy in Islamic central banking is to determine the share of profit relative to that of capital for all investment projects submitted to Islamic banks. This is probably the most important role a central bank can play because, if effectively used, this would

channel the bank's financial resources into asset-building processes without having to worry about the emergence of a money whirlpool. The ratio thus determined by the Islamic central bank is especially useful in cases where different risks are involved and it is another of the central bank's tasks to prepare a list of the different risks involved in various investment projects.

6. Western economists have always and justifiably been worried about unnecessary expansion of money supply, the volume of which is hard to control.[12] This is probably why Friedman advocated an RRR of 100 percent. Nevertheless, if Islamic banks are prohibited from lending on interest, the different modes of contract available to them enable them to finance the specific needs of both firms and individuals. With constant and effective supervision by the central bank, the chances of a money market developing are very slim. By preparing accurate information and making it available to the general public, the central bank would be able to provide symmetrical information and, to a great extent, prevent moral hazard.

7. The fact that money will not be a tradable entity and that its production and volume will be closely monitored by the central bank make it appropriate for classification as an impure public good in an Islamic state. Other properties of such goods which also apply to money include: (a) demand can be constructed by vertical summation of individual demands; (b) externality can be derived from its capability to become actual capital; hence, government (that is, central bank) intervention. Furthermore, it benefits each person simultaneously and is thus equally available to each person. Additional individuals looking for money may be added at zero marginal cost; (c) the indivisibility of money refers to its purchasing power and not its physical character; and (d) its velocity is greater than unity, implying that it is not supposed to be withheld, contrary to the case with a private good.

    Money has two distinct attributes. At the micro level, it is part of the assets of the individual possessing it. But at the macro level, it cannot be added to the assets of the economy. To count money as the wealth (or asset) of a nation will lead both to the fallacy of composition and to the double-counting problem. This property is the only thing that makes it distinct

from other public goods and may well be the consequence of it being the medium of exchange.

8. The removal of interest and all its derivatives will lead Islamic banks to finance investment projects through PLS based on the profitability and feasibility of the projects. Hence, projects compete with each other on the basis of their IRR. However, the criterion used by a potential investor is the IRR of a specific project. The role of the central bank in determining an array of IRRs for various activities in different sectors is extremely valuable for channeling resources into proper projects.

    After their feasibility and profitability have been confirmed, projects become eligible to obtain finance; furthermore, the projects themselves become collateral for finance. As long as there are appropriate factors of production available for investment, projects have to be financed by Islamic banks, irrespective of how much money is required. In Islam, it is the right of labor not to be kept unemployed.

    In the final analysis, everything coming out of an Islamic bank in response to financing an investment project can be called a Certificate of Asset Building (CAB). These CABs are appropriate to both the production and household sectors.

9. The appropriateness of projects is to be determined by the central bank with a close eye on social welfare. However, to determine which projects are more profitable to finance is the task of each individual bank. The central bank's task is to instruct the banks to give priority to projects which are more compatible with the country's overall economic plan.

CLASSIFICATION OF ISLAMIC MODES OF CONTRACT

Islamic contracts can be classified into two broad categories: (1) those with variable returns (such as *Musharakah* and *Mudarabah* contracts) and, (2) those with fixed returns (Installment Sales, Hire Purchase, *Jo'aalah*, and the like). The second category may be defined as auxiliary contracts, which can be used in conjunction with the first category or after such has been utilized. While the first category involves risk, the second type is riskless, which might be more appealing to Islamic banks. However, there is an urgent need for a government institution to shoulder the burden of risk produced by the public sector and

beyond the control of the private sector. Reducing or eliminating risk for investors requires that the banks pay compensation from the own share of profit by changing the value of Alpha (α). This process has to be closely monitored by the central bank and provides uniformity across all banks under its control, wherever they may be located.

Whichever contract an Islamic bank uses, the accountants responsible for submitting balance sheets and P&L statements to the tax authorities do not accept anything under the heading of cost. Neither accountants nor economists can deny that the Islamic banks' share of profit paid by investors is a sort of dividend which is essentially determined after all costs have been subtracted from revenue.

To fulfill all of these functions effectively, an Islamic central bank must have personnel highly qualified in portfolio and risk management and project appraisal. This is also a must for each individual Islamic bank.

After they have followed the central bank's instructions to the letter, the banks can safely be allowed to gradually reduce RRR to zero, which will make capital abundant (in perfect line with Keynes' assertion that there is no reason for capital to be scarce).

Admittedly, the monitoring costs involved in Islamic banking are higher than those of conventional banking but these are outweighed by the potential benefits to be had from reducing unemployment and keeping prices constant. Most importantly, the distribution of income and wealth will be more equitable and guarantees sustained economic development. The role of an Islamic central bank in this regard cannot be overstated.

The Islamic banking system and Keynesian theory coincide in their aim of "getting rid of many of the objectionable features of capitalism." Keynes acknowledged that "it is to our best advantage to reduce the rate of interest to that point relative to the schedule of the marginal efficiency of the capital at which there is full employment" (Keynes 1936: 375).

In working toward this goal, the Islamic central bank need not act as an independent institution (as it is in the conventional system). In order to make money an endogenous variable through its integration in the real sector, it makes sense that the institution responsible for financial policy is also part of the institution responsible for fiscal policy. In other words, we suggest that the governor of the Islamic central bank be a vice-minister under the control and supervision of either the Ministry of Economics or Ministry of Finance. This will have the effect of making financial policy complementary to fiscal policy. It has

been shown that this financial-fiscal mix will prevent the emergence of the "crowding-out effect" which concerns many economists.[13]

APPLICATION OF IRR AND ZERO COST OF CAPITAL[14]

In this section, we concentrate on the role and application of IRR in the appraisal of industrial investment projects in the private sector.

While differences of opinion abound over the relative merits of different investment appraisal methods, almost all economists consider the use of "discounting" to be the only possible way to choose between different investments. The two methods most generally used by economists are net present value (NPV) and extended internal rate of return (IRR).[15] IRR is the term used by Keynes but is perhaps more familiar to the reader as the marginal efficiency of capital (MEC) schedule,[16] sometimes referred to as marginal efficiency of investment (MEI). This is defined as the rate which makes the present value of the future income streams exactly equal to the market price of the project. In other words, it is the rate of return that is being earned on capital tied up. That is, while it is tied up it allows for recoupment of the project. Hawkins and Pearce define the NPV of a project as "the value today of the surplus that the firm makes over and above what it could make by investing at its marginal rate" (Hawkins and Pearce 1971: 24). They also explain that the basis of the "extended IRR is that the negative cash flows are discounted back at the firm's cost of capital until they are offset by positive cash flows" and point out that these methods have a common shortcoming in that neither "can be applied in the normal way to give the correct ranking of projects in situations where the rationing of an input is involved" (Ibid.: 35–6). Nevertheless, there are ways of removing these shortcomings and rendering them suitable for appraisal purposes.

Here, we concentrate on extended IRR. In simple cases where the decision is of an "all or nothing" nature, the rule is to undertake all projects which have an IRR greater than the cost of capital.

In a capitalist system, the cost of capital is the rate at which a firm can borrow and invest, which is simply the rate of interest. In other words, it works as the cut-off rate, or "hurdle rate," as it is sometimes referred to. Note that in the NPV approach, it is necessary for the decision-maker to have some explicitly predetermined discount rate; which is nothing but the going rate of interest in the money market. However, this is entirely unnecessary in the IRR method except when

the time comes where debt-capital is to be rationed among different projects. This makes the IRR approach independent of the rate of interest and also quite appropriate to be used for investment projects in an interest-free Islamic setting.[17]

In a capitalist context, if the IRR is greater than or equal to the market rate of interest, then the project will be undertaken. Profit maximization will push the firm to the margin where the last project undertaken has an IRR equal to the rate of interest. Evidently, the IRR schedule is a decreasing function of investment projects; that is, the more projects that are undertaken, the lower will be the IRR (in the same industry or activity, of course).

Western economists agree that the rate of interest plays a crucial role in determining which projects are undertaken and how much capital is to be invested in each. If there is to be only one project, the above criteria are quite valid and applicable as to the optimal amount of capital. Nevertheless, as the number of projects increases, there is a corresponding increase in the IRR that has to be calculated for each project. Should there happen to be points of intersection between every two IRRs, this will complicate the problem and it will drastically reduce the importance of the rate of interest, especially in cases where the interest rate is well below the IRR of the last feasible project under consideration (see Figure 7.1).

Figure 7.1   Competing IRRs
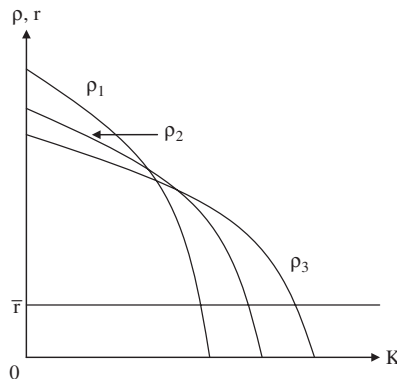
Given that investors are seeking a safe margin, they are normally faced with an array of investment opportunities from which they are supposed to select the one whose IRR is the highest. Assuming that they are able to get many projects financed, there may be tens of

different projects whose IRR is higher than the going rate of interest. In plotting Figure 7.1, we have considered only three projects, whose IRRs are ρ_1, ρ_2, and ρ_3, respectively. All of these projects are attractive to the entrepreneur, although in different degrees, and will be chosen in descending order (see Table 7.2).

Table 7.2 Selection of projects

Amount of Capital	A	B	C
1,000	24	23.5	25
2,000	21.5	22	24.5
3,000	19	20	22
4,000	16	17	21
5,000	14	15	20.5
6,000	10	13	18
$\bar{r} = 9\%$			

This being the case in real business life, the role of the rate of interest becomes passive and even redundant, because under such circumstances the IRRs compete with each other until they reach the rate of interest. It is beyond this point that the interest rate becomes sensible and has a role to play as a cut-off rate. In other words, it takes a long process before the existence of interest rate becomes relevant because the IRRs of each pair of adjacent projects are compared with each other because of the interdependencies of investment projects, without reference to the rate of interest.

Although the rate of interest is exogenous to the real sector (especially investment), in the capitalist system, it is used to determine the level of optimal investment. Not only that; speculators, whose demands in the money market produce the rate of interest, are allowed to lead the decisions of entrepreneurs whose actions are so important to the economy.[18] If anything, it would seem rather more reasonable to have the relation reversed, with the real sector leading the monetary sector.

The abolition of interest rates would ensure that there would be no exogenous variable to determine the type and level of investment. Investment projects would compete with each other and as many investments as needed to reach full employment would be undertaken; that is, as long as there are unused factors of production in the

economy. To put it another way, investment projects would be undertaken as long as the IRR of the last economically justifiable project is nearly zero.

The investment opportunities open to entrepreneurs can be demonstrated in the following simple example (as illustrated in Figure 7.2).

Figure 7.2   Horizontal summation of IRRs. (Assuming that 18,000 units of capital are needed to reach full employment, all of which become feasible and will be undertaken.)
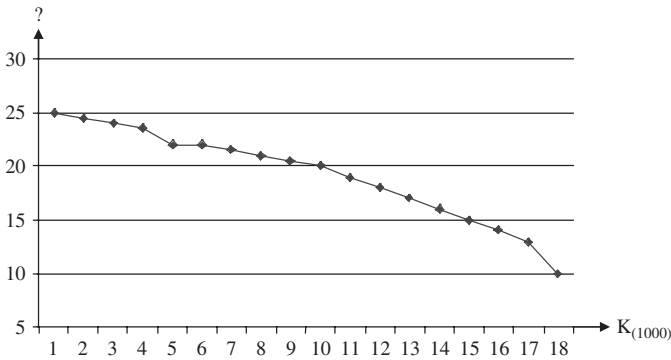
However, if the rate of interest is assumed to be 15 percent, then only 15 of the available projects whose IRRs are above this rate will be implemented. This obviously leaves part of the potential capital idle; hence unemployment. The difference between the potentially available capital and that actually tied up in investment projects will naturally be channeled towards a money whirlpool for further speculative activities, with all the attendant damage these can inflict on society. Islam views its human resources as a vital and intrinsic component of the system; the authorities are not allowed to keep people unemployed to feed the interests of capitalists.

It can easily be demonstrated that, in an Islamic framework, every piece of money coming out of interest-free banks to finance different projects under various modes of contracts becomes a permit to directly produce goods and/or services.

The array of IRRs can be calculated both by an Islamic Central Bank and its independent licensed agencies in order to provide Islamic banks with appropriate guidelines as to the nature and profitability of projects and the priority to be accorded them as part of the nation's overall economic development plan. In determining the firm's share of profit in each case, the factors that might need to be taken

into consideration include such things as risk premium; the degree of deprivation of different regions and the priorities in economic development plans; capital intensity; tax provisions; employment considerations; foreign-exchange rates, and the like. Each, or any combination, of these factors can influence the demanding firm's (the fiancee) share of profit that can be safely manipulated without having to interfere in the market mechanism. This gives the IRR method in an interest-free banking system an absolute advantage over the artificial manipulation of interest rates that is often practiced in capitalist countries, and an obvious interference in the market mechanism. This is contrary to the position often held by Western economists who profess that such interference is to be avoided. The negative relationship between rate of interest and investment advocated by both the classical economists and Keynes has been empirically proven to be inconclusive. On the other hand, we have shown that there is much to support a proposition that there is a positive relationship between rate of profit and investment. This proposition not only takes care of interest costs in the capitalist system but is also consistent with the profit-maximization goal of any individual firm.

Using the IRR method in an Islamic state is compatible with the goal of profit maximization (if it were to be proven to be appropriate in such a system), avoids any interference in the market mechanism, and has the absolute advantage of bringing the opportunity cost of capital down to zero. The logic of this is simple. As we have seen, in the absence of interest, all projects compete with each other on the basis of their IRR. All investment projects are interdependent and there is no need to bring in any exogenous factor in order to determine the same rate as opportunity cost of capital for all projects. In the capitalist system, the going interest rate is logically taken as "the next best alternative" or cost of capital for all projects. The logic concerns its independence of the IRRs of the projects; that is, the covariance, or correlation coefficient, is zero:

$$\text{Cov.}(r, \rho) = 0 \qquad (7\text{-}1)$$

The phrase "next best alternative" does not imply that the IRR of a project *adjacent* to that under consideration should be taken as its opportunity cost of capital. This is because the interdependencies of all projects are unequal to zero:

$$\text{Cov.}[\rho(i), \rho(j)] \neq 0 \quad \text{for all i} \neq \text{j} \qquad (7\text{-}2)$$

and this does not qualify any one of the IRRs as suitable for the opportunity cost of the remaining projects; otherwise, there would be hundreds of opportunity costs in a capitalist framework, whereas the rate of interest is taken to measure the opportunity cost of all capital investments. In our earlier example of the three projects, whose IRR for every 1,000 units of capital is given, the opportunity cost of the first 1,000 units of capital for project C is not 24.5; neither is that for the fourth 1,000 units of capital for project B 15; and so on. Entrepreneurs can either opt to be in or not. In such cases, their opportunity cost is the going rate of interest. But if there is no option for investment other than undertaking a project, then there would be no cost to forgo; hence, the opportunity cost of capital in an Islamic setting has to be zero. In other words, in order to have opportunity cost, the condition of independence has to be met. The failure to consider the interdependencies of the projects and the independence of the rate of interest from the IRRs of investment projects has led many writers to form misconceptions about opportunity cost capital.[19]

Being interdependent and shared by Islamic banks, these projects cannot logically be used to measure the opportunity cost of capital, which simply means that the opportunity cost of capital is zero. This conclusion is in complete agreement with both accounting standards and with economic logic. On this score, two points should be mentioned here. First, accountants quite often use the historical cost in their calculations. In PLS contracts, the profit share of one partner cannot be considered as a cost of the other partner (and such cases are treated in the same way as dividends paid to the shareholders). Second, accountants never agree with the economists' search for a theoretical opportunity cost of capital, which has to be independent from IRRs. Despite this, economists continue to base their analyses on the financial statements prepared by accountants (which are accepted by tax authorities without any questions being raised about their validity) without adjusting these statements.

In sum, the tax authorities of an Islamic state will not accept any cost as a cost of capital, and economists are expected to be explicit about the independence of the rate of interest from IRRs so that the opportunity cost of capital is justifiable.

A distinction has to be made between opportunity cost of capital and cut-off rate. It should be clear by now that although in an Islamic state the opportunity cost of capital is zero, a lower IRR in an array of IRRs can be used as a cut-off rate for the project under consideration. Entrepreneurs will find this point attractive (Figure 7.2 was drawn on

the basis of the same logic). In other words, all IRRs are ranked in descending order in order to derive the common IRR of all projects. The IRR of any one of the projects adjacent to and below that under consideration is the cut-off rate for an entrepreneur, meaning that any IRR higher than those of other projects but below the IRR of the project under consideration is to be used as the cut-off rate.

Cut-off rate is a criterion that can be used in both Islamic and conventional systems. However, it is different in meaning and implication from the opportunity cost of capital. In short, the rate of interest plays a twofold role: as the opportunity cost of capital and the cut-off rate in the conventional system. While the opportunity cost of capital is also the cut-off rate, the reverse is not true. We conclude that in Islamic banking the opportunity cost of capital is zero, but the IRR of any one of the projects can be used as a proper candidate for the cut-off rate.

Despite what is commonly believed, on almost all occasions, we are concerned with cut-off rate and rarely with opportunity cost. The opportunity cost of capital being nil in an Islamic framework has numerous positive economic implications and consequences. All things being equal, (1) it raises the profits enjoyed by the Islamic bank's partner-firms, which in itself is a powerful stimulant to further investment; (2) if such high profit rates are distributed among depositors effective demand will go up, making it possible to expand the firm and hire more labor, which makes full employment an achievable goal; (3) more profit taxes will be collected and any budget deficit would tend to decrease over time; and (4) if part of the reduction in production cost is reflected in prices of the commodities produced, the whole community will enjoy lower prices, higher incomes and boost aggregate demand.

Having interest rates in a system prevents the simultaneous coexistence of stable prices and full employment. In addition, the attendant inflation and unemployment hurt the majority while a privileged enjoy the benefits of interest incomes. Islamic banking narrows the gap between the rich and poor through stable prices, full employment, and providing bank depositors with profit income through PLS. This in turn provides a more equitable distribution of income—the cornerstone of sustained growth and development.

In earlier chapters, we saw that the rate of interest is not eligible to be considered as a candidate for social rate of time preference and that this can be zero in an evenly rotating system. This does not imply that our hypothetical society has to have a zero rate of interest nor

that a positive social rate of time preference necessitates the existence of a positive rate of interest.

The money market is, as we have seen, based on short-term, even daily, speculative activities, which is hardly a sound basis for determining the future. For this, there needs to be a criterion endogenously determined from within the real sector of the economy.[20] The weighted average of all IRRs derived from investment projects best exemplifies the social rate of time preference in every society in that it encompasses all projects with various time spans revealed as its preference in that society.[21] This rate is automatically adjusted every time a project is implemented and can be used for discounting the future income streams in every project undertaken. Finally, this rate is the same rate depositors enjoy from depositing their savings in Islamic banks.

THE TRANSMISSION MECHANISM FOR CREATING MONEY

Central banks have usually been thought of as a suitable and powerful agency through which governments can raise funds to pay for internal improvements, infrastructure, military expenditure, and so on. The central bank's exclusive (monopoly) right to print and circulate money was used as a means of imposing indirect taxes through seigniorage earnings on their citizens.[22] However, governments have to be looked upon as benevolent and not as profit-maximizers. What is expected of governments' actions is improvements in social welfare.

Given that the banking industry is an integral part of an Islamic economic system, the government's goal cannot be to maximize its own profit from printing money. Earlier, we showed how it would be possible to have the socially optimum provision of money in order to have the government's earnings on seigniorage as zero. Further, it was emphasized that the prime task of the Islamic central bank is to develop an environment suitable for the transformation of as much potential capital (money, M) to actual capital (K) as is possible. What determines this level and the restrictions imposed on the money supply is the availability of resources. In other words, as long as there are idle resources available to be used as factors of production, the money supply can be increased accordingly. This allows us to avoid any of the artificial scarcity of capital which caused great concern to Gesell, Keynes, and others. The transmission mechanism through which this will work is shown in Figure 7.3.

Figure 7.3 Transmission mechanism for creating money in response to demand for factors of production
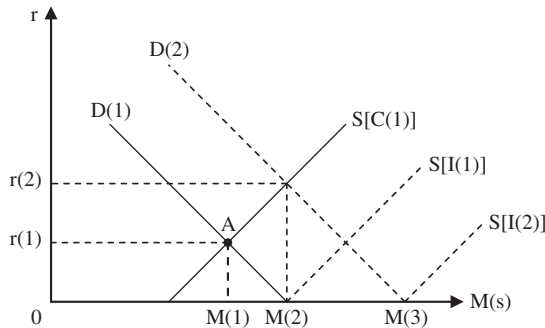
Suppose the initial equilibrium in the capitalist system is at point A, where the rate of interest is r(1). Assume further that an Islamic system faces the same demand for money to be transferred into capital whose intersection with supply schedule of money, S [I (1)], is at point M(2) where the interest rate is zero.

The following observations can be made regarding this figure:

1. In the capitalist system, an increase in demand for money increases the rate of interest from r(1) to r(2). This raises the supply of money from M(1) to M(2) along the supply curve.
2. The behavior of the supply of money in this system is such that it artificially holds the rate of interest at a positive figure.
3. In the Islamic system, the same increase in demand brings a bigger increase in supply than in the capitalist system.
4. The reason for plotting supply and demand in this way is to appease the psychology of the demanders that a positive rate of interest will prevail because of the scarcity of money. However, the psychology of the banking authorities is different in that they want to prevent such a phenomenon from happening.
5. Both demand curves in the Islamic system are derived demands in which their underlying existence is the availability of resources to be used in the production function. This is in complete contrast with the capitalist system, where demand for money is a function of the rate of interest and is intrinsically used for speculative purposes in which the ultimate result is to perpetuate underemployment.

6. The demand and supply of money in the Islamic system has a two-fold role: to hold the rate of interest at zero and to remove scarcity of capital through the instantaneous conversion of the legal character of money to the legal character of capital.

An alternative way to draw the supply of money in an Islamic setting is to assume it to be perfectly coincident with the horizontal axis. In other words, whenever the demand for money intersects the horizontal axis, the point of intersection is the supply of money *as if* it was the supply curve of money without bound. Its zero slope might be interpreted as exhibiting the psychology of the banking authorities having no relation to the rate of interest (as opposed to that of the private sector). Its unboundedness further shows that its supply can be increased at zero cost whenever there are factors of production available to be used in the production function.

Figure 7.4 shows how demand and supply in an Islamic framework correspond to demand for and supply of investment expenditures.

Figure 7.4 Correspondence between demand and supply of money with demand and supply of investment in an Islamic setting
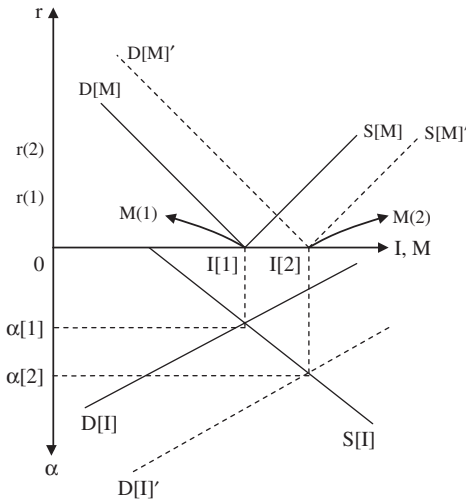
This figure shows that at the initial equilibrium between demand and supply for investment the parameter Alfa (α) is at $\alpha[1]$ and investment volume is I[1] which, in turn, corresponds to a need for money M(1) to be legally transformed into actual capital (K). If for some reason (new technology and/or resources, or a more highly skilled workforce, for example) the required demand for capital expenditure

increases from D [I] to D [I]′ this would be a signal to the Islamic central bank to increase supply of money from M(1) to M(2) where, again, the zero rate of interest is left intact.

Any increase in demand for money (derived demand) which originates in the real sector can be used as a signal to diffuse more money into the system. This leads us to the conclusion that any increase in the supply of money will correspond to the same amount of capital investment. In other words,

$$\Delta M(S) = \Delta K \equiv I.$$

This also shows that the banking authorities will allow no part of the money supply to be channeled through speculative activities because the rate of interest in all commodities has to be zero. This, in turn, prevents any speculation in any market.

NOTES

1 Keynes 1936: 235.
2 All the references to Friedman and Schwartz in this section refer to their book (1963), unless otherwise stated.
3 Another tightening studied by Frieman and Schwartz "occurred in September 1931, following the sterling crisis. In that month, a wave of speculative attacks on the pound forced Great Britain to leave the gold standard. Anticipating that the United States might be the next to leave gold, speculators turned their attention from the pound to the dollar" (Bernanke 2002: 4). However, we leave such matters for interested readers to pursue for themselves.
4 Friedman's response to this in his AEA presidential address was: "The quantity of money in the United States fell by one-third in the course of contraction. And it fell, not because there were no willing borrowers... It fell because the Federal Reserve System forced or permitted a sharp reduction in the monetary base" (see Makinen 1977: 409). For a thorough and professional analysis of the debate between the Keynesians and Friedman, see Makinen 1977: 365–432.
5 Samuelson was among the first to question the scientific worth of Friedman's statement on methodology. Makinen reports that he "concluded that... as far as economics was concerned, Friedman was wrong in thinking that unrealism in the assumptions of a theory (in the sense of their factual inaccuracy even to a tolerable degree of approximation) is meritorious" (Makinen 1977: 422–5).
6 For a fuller version of the following section, see Toutounchian 2004a.
7 For a detailed discussion of the various theories relating to business cycles, see Makinen 1977: 72–88.
8 For details, see Toutounchian 1379 = 2000/01: 591–5.
9 One example of this is the joint workshop on *Tawarruq* held in London in February 2007 by the Harvard Law School and the London School of Economics.
10 The original version of this paper was presented by the author in an International Conference on Islamic Banking, at the Bank of England in February 2004.
11 For an excellent treatment of the subject, see Harcourt 1982: 1–27.
12 See Makinen 1977: 269 footnote.
13 See Toutounchian 1995 and Akitoby *et al.* 2007.
14 See Toutounchian 2003.
15 See Ross *et al.* 1991: 65–6 and 154–7; Hawkins and Pearce 1971: 21–51; and Lumby 1983: 51–62, among many others.
16 See Keynes 1936: 135–6 and Junankar 1972: 20–1.

17 See Hawkins and Pearce 1971: 29–34 on removing the problems where there are multiple positive roots and the case where there is negative capital.

18 Constant changes in the rate of interest, and in turn in speculative activities, make the economic system unstable and vulnerable. See Toutounchian 1375 = 1996.

19 For details, see Toutounchian 1367 = 1988: 1–27.

20 University professors, in grading students' examination papers, often use a curve derived from within the same students' performances to determine their grades, without recourse to outside criteria. Similar logic can be applied here for project-evaluation purposes.

21 For details, see Toutounchian 1379 = 2000/01: 510–17.

22 To some economists, the justification for having a central bank is that banking markets may, like markets for other goods and services, experience externalities. The existence of market externalities is a common justification for government intervention in the workings of private markets. Some economists are of the opinion that externalities are the underlying reason that individuals form governments. See, for example, Miller and VanHoose 1993: 382.

Bibliography

Ackley, G. 1969, *Macroeconomic Theory,* The Macmillan Company, Toronto.

Akacem, M. 1991, "Islamic Banking and the U.S. Banking Crisis," *Wall Street Journal* (May).

Akitoby, B., Hemming, R. and Schwartz, G. 2007, "Public Investment and Public-Private Partnership," *Economic Issues* 40, IMF.

Al-Aqde Ul-Moneer in *The Nature of Money* 1377 = 1998, 1: 89.

Al-Dinar-ulislamiah in *The Nature of Money* 1377 = 1998, 1: 12.

Al-Hada-equl Naazerah in *The Nature of Money* 1377 = 1998, 2: 89.

Al-Noqudul-Islamiah 1986 in *The Nature of Money* 1377 = 1998, 3–6.

Ardin, G. 1968, "The Tragedy of the Commons," *Science* 162: 1243–48.

Ariff, Mohammad (ed.) 1982: *Monetary and Fiscal Economics of Islam,* International Centre for Research in Islamic Economics; King Abdulaziz University, Jeddah.

Aschheim and Hsieh 1969, *Macroeconomics: Income and Monetary Theory,* Charles E. Merrill Publishing Co.; Columbus Ohio.

Ashley W. J. 1893, *An Introduction to English Economic History and Theory*, reprinted 1969 by Augustus Kelley, N.Y.

Axelrod, R. 1984, *The Evolution of Cooperation,* Basic Books.

Bailey, M. J. 1956, "The Welfare Costs of Inflationary Finance," *Journal of Political Economy,* 64 (2): 93–110.

Bamberg, G. and Spermann, K. 1989, *Agency Theory, Information, and Incentives,* Springer.

Barro, R. J. 1989, *Modern Business Cycle Theory,* Basil Blackwell, Oxford.

Baumol, W. J. 1965, *Economic Theory and Operations Analysis* (2nd ed.), Prentice-Hall Inc., N.J.

Baumol, W. J. 1986, *Superfairness (Applications and Theory)*, MIT Press, MA.

Beckenkamp Sr., M., Hennig-Schmidt and Maier-Rigaud, F. P. 2007, "Cooperation in Symmetric and Asymmetric Prisoner's Dilemma Games," No. 2006–25 Working Paper Series of the Max Planck

Institute for Research on Collective Goods; Indiana University; Bloomington.

Berkeley, G. 1910, *The Querist*, Johns Hopkins Press, Baltimore.

Bernanke, Ben S. 2002, "Remarks by Governor Ben S. Bernanke at the Conference to Honor Milton Friedman," University of Chicago, Illinois (November 8).

Blanchard, O. and Simon, J. 2001, "The Long and Large Decline in US Output Volatility," Brookings Papers on Economic Activity: 135–64.

Bliss, C. J. 1975, *Capital Theory and the Distribution of Income,* Advanced Textbooks in Economics, North-Holland Publishing Company, Amsterdam.

Böhm-Bawerk, Eugen 1889 [1959], "The Positive Theory of Capital," in *Capital and Interest*; Vol. II; translated by George D. Huncke; Libertarian Press; South Holland; Illinois.

Böhm-Bawerk, E. 1890, *Capital and Interest,* translated by W. Smart, Macmillan, London.

Böhm-Bawerk, Eugen 1895, "The Origin of Interest"; *Quarterly Journal of Economics* 10: 1–4.

Bordo, Michael D. 1981, "The Classical Gold Standard: Some Lessons for Today," Federal Reserve Bank of Saint Louis.

Branson, W. H. 1979, *Macroeconomic Theory and Policy,* Harper & Row, N.Y.

Brenner, R. 1998, "The Economics of Global Turbulence," *New Left Review* 229: 1–264.

Bronfenbrenner, M. 1971, *Income Distribution Theory,* Aldine Atherton, N.Y.

Brosio, G. and Hochman, H. M. (eds) 1999, *Economic Justice* (two volumes), An Elgar Reference Collection, MA, U.S.A.

Buchanan, J. M. 1968, *The Demand and Supply of Public Goods,* Rand McNally & Co., Chicago.

Cassel, G. 1957, *The Nature and Necessity of Interest*; Kelley & Millman, Inc., N.Y.

Casson, M. 1981, *Unemployment (A Disequilibrium Approach),* Martin Robertson, Oxford.

Champ, B. and Freeman, S. 2001, *Modelling Monetary Economics* (second edition), Cambridge University Press, U.K.

Chapra, M. U. 1985, *Towards a Just Monetary System*, the Islamic Foundation, Leicester, U.K.

Chapra, Umer 2001, *Prohibition of Interest: Does it Make Sense?*, IDM Publication, Durban.

Cheung, Steven N. S. 1969, *The Theory of Share Tenancy*, University of Chicago Press.

Chrystal, K. A. and Price, S. 1994, *Controversies in Macroeconomics* (third edition), Harvester Wheatsheaf; London.

Ciocca, P and Nardozzi, G. 1996, *The High Price of Money (An Interpretation of World Interest Rates)*, Clarendon Press, Oxford.

Coase, R. 1960, "The Problem of Social Cost," *Journal of Law and Economics* (October).

Coghlan, R. 1981, *Money, Credit, and the Economy*, London.

Cole, H. R. and Kocherlakota, N. 1998, "Zero Nominal Interest Rates: Why They're Good and How to Get Them," *Federal Reserve Bank of Minneapolis Quarterly Review* 22 (2): 2–10.

Coleman, J. S. 1966, "The Possibility of a Social-Welfare Function"; *American Economic Review*.

Collard, D. 1981, *Altruism & Economy (A Study in Non-Selfish Economics)*, Martin Robertson, Oxford.

Connolly, S. and Munro A. 1999, *Economics of the Public Sector*, Prentice Hall Europe.

Cooley, T. F. and Hansen, G. D. 1989, "The Inflation Tax in a Real Business Cycle Model," *American Economic Review* 79 (4): 733–48.

Creutz, H. 1999, *Money, Interest and Socio-economic Crises*, a Persian condensed translation, made from a German text entitled *The Dilemma of Money*, by H. R. Shahmirzadi, 1378 = 1999.

Dalton, J. M. 1988, *How the Stock Market Works* (second edition), Institute of Finance, N.Y.

Davidson, P. 1972, "Money and the Real World," *Economic Journal* (March).

Davis, M. and Maschler, M. 1963, "Existence of Stable Payoff Configurations for Cooperative Games," *Bulletin of American Mathematical Society* 69: 106–8.

Davis, M. and Maschler, M. 1965, "The Kernel of a Cooperative Game," *Naval Research Logistics Quarterly* 12: 223–59.

DeLorenzo, Y. T. (ed. and translator) 2001, *A Compendium of Legal Opinions on the Operations of Islamic Banks,* Institute of Islamic Banking and Insurance, London.

Desai, Meghdad 1979, *Marxian Economics,* Basil Blackwell, Oxford.

Dhrymes, P. J. and Kurz, M. 1967, "Investment, Dividend, and External Finance Behavior of Firms" in *Determinants of Investment Behavior,* Columbia University Press for NBER, N.Y.: 427–67.

Dillard, D. 1948, *The Economics of John Maynard Keynes,* Prentice-Hall Inc., N.Y.

Dillard, D. 1954, "The Theory of a Monetary Economics" in *Post-Keynesian Economics,* K. K. Kurihara (ed.), Rutgers University Press, N.J.

Dobb, M. H. 1976, *Welfare Economics and the Economics of Socialism,* Cambridge University Press, Cambridge.

Drake, P. J. 1982, *Money, Finance, and Development,* Oxford.

Eagly, Robert V. 1974, *The Structure of Classical Economic Theory,* Oxford University Press, N.Y.

Eichner, A. S. 1976, *The Megacorps & Oligopoly: Micro foundations of macro dynamics,* Cambridge University Press, London.

El-Ghazali, A. H. 1994, *Man is the Basis of the Islamic Strategy for Economic Development,* Islamic Economics Translation Series No.1, Islamic Development Bank (IRTI).

Evans, M. K. 1969, *Macroeconomic Activity: Theory, Forecasting, and Control, An Econometric Approach,* Harper & Row Publishers, N.Y.

Farina, F., Hahn, F. and Vannuci, S. (eds) 1996, *Ethics, Rationality and Economic Behavior,* Clarendon Press, Oxford.

Fischer, S. 1981, "Towards an Understanding of the Costs of Inflation: II," *Carnegie-Rochester Conference Series on Public Policy* 15: 5–142.

Fisher, D. 1978, *Monetary Theory and the Demand for Money,* Martin Robertson, Oxford.

Fisher, I. 1906, *The Nature of Capital and Income,* Macmillan, N.Y.

Fisher, S. 1974, "Money and the Production Function," *Economic Inquiry* (December).

Friedman, M. and Schwartz, Anna J. 1963, *A Monetary History of the United States, 1863–1960,* Princeton University Press, N.J.

Friedman, M. and Schwartz, Anna 1970, *"Monetary Statistics of the United States,"* National Bureau of Economic Research, N.Y.

Friedman, M. 1948, "A Monetary and Fiscal Framework for Economic Stability," *The American Economic Review* 38: 245–64.

Friedman, M. 1969, *The Optimum Quantity of Money and Other Essays,* Aldine, Chicago.

Gabor, A. and Pearce, I. 1958, "The Place of Money Capital in the theory of production," *Quarterly Journal of Economics* (November).

Galbraith, J. K. 1983, *The New Industrial State* (second edition), Penguin Books.

Gauthier, D. 1986, *Morals by Agreements*, Oxford University Press, Oxford.

Gesell, S. 1934, *The Natural Economic Order (Money Part),* translated from the sixth German edition by Philip Pye, Free-Economy Publishing Co., San Antonio, Texas.

Glahe, F. R. and Lee, D. R. 1981, *Microeconomics (Theory and Applications),* Harcourt Brace Jovanovich Inc., N.Y.

Gomme, P. 1993, "Money and Growth Revisited: Measuring the Costs of Inflation in an Endogenous Growth Model," *Journal of Monetary Economics* 32 (1): 51–77.

Gowland, D. 1985, *Money, Inflation, and Unemployment,* Harvester Wheatsheaf, London.

Gorringe, T. 1999, *Fair Shares: Ethics and the Global Economy (Prospects for Tomorrow),* Thames & Hudson.

Graaff, J. de V. 1975, *Theoretical Welfare Economics,* Cambridge, U.K.

Greaves, Percy L. Jr. 1974, *Mises Made Easier: A Glossary for Ludwig von Mises's Human Action,* Free Market Books, Dobbs Ferry (N.Y.).

Greenhut, M. L. 1974, *A Theory of the Firm in Economic Space,* Lone Star, Texas.

Gunnings, J. P. undated, Paradoxical vs. Positive Time Preference: Ludwig von Mises's Contribution to Interest Theory, unpublished research paper.

Gurley, J. and Shaw E. S. 1960, *Money in a Theory of Finance,* Brookings Institution.

Hadjimichalakis, M. G. 1982, *Modern Macroeconomics (an Intermediate text),* Prentice-Hall Inc., N.J.

Hahn, F. H. 1971, "Professor Friedman's Views on Money," *Economica* (February): 61–80.

Hammond, P. 1972, "Charity: Altruism or Cooperative Egoism?," Department of Economics, Mimeo, University of Essex.

Hamoudi, H. A. 2007, "Halal Banking or Islamic Banking?," *New Horizon* 164 (April-June), London.

Hansen, A. 1951, *Business Cycle and National Income,* W. W. Norton & Co. Inc., N.Y.

Harcourt, G. C. 1969, "Some Cambridge Controversies in Theory of Capital," *Journal of Economic Literature* 5 (June): 369–405.

Harcourt, G. C. 1976, "The Cambridge Controversies: Old Ways and New Horizons—or Dead End," *Oxford Economic Papers* 28 (1): 25–65.

Harcourt, G. C. 1982, *The Social Science Imperialists,* Routledge & Kegan Paul, London.

Harsanyi, J. C. 1959, "A Bargaining Model for the Cooperative N-Person Game" in R. D. Luce and A. W. Tucker (eds), *Contributions to the Theory of Games* (Annals of Mathematical Studies 40), Princeton University Press.

Harvard Law School and London School of Economics 2007, Workshop on *Tawarruq* (A Methodological Issue in *Shariah*-Compliant Finance), London (February).

Haslag, J. H. 1997, "Output, Growth, Welfare, and Inflation: A Survey," *Federal Reserve Bank of Dallas Economic Review*: 11–21.

Hawkins, C. J. and Pearce D. W. 1971, *Capital Investment Appraisal,* Macmillan Studies in Economics, Great Britain.

Hayek, F. A. 1931 [1967], *Prices and Production,* Augustus M. Kelley, N.Y.

Hayek, F. A. 1936, "The Mythology of Capital," *Quarterly Journal of Economics* (February).

Hayek, F. A. 1973, *Law, Legislation and Liberty,* Vol. 1: Rules and Orders, Chicago University Press.

Hayek, F. A. 1979, *Law, Legislation and Liberty,* Vol. 3: The Political Order of a Free People, Chicago University Press.

Hayek, F. A. 1988, *The Fatal Conceit: The Errors of Socialism,* Routledge, London.

Hazlitt, Henry 1979, *Economics in One Lesson,* Three Rivers Press, N.Y.

Hedayati, A. A. *et al.* 2004 = 1383, *Internal Banking Operations (Resource Allocation),* Iran Banking Institute, Central Bank of Islamic Republic of Iran.

Helli, M. 1995 = 1374, *Sharaye-ul Islam,* translated from Arabic to Persian by A. Ibn Ahmad Yazdi, Tehran University Publications, Tehran.

Henderson, J. M. and Quandt, R. E. 1985, *Microeconomic Theory (A Mathematical Approach),* third edition, McGraw-Hill Book Company, Singapore.

Hey, J. D. 1981, *Economics in Disequilibrium,* Martin Robertson, Oxford.

Hicks, J. R. 1935, "A Suggestion for Simplifying the Theory of Money," *Econometrica*; reprinted in *Readings in Monetary Theory,* Richard D. Irwin, Inc., Illinois 1951.

Hicks, J. R. 1939a, *Value and Capital (An Inquiry into some Fundamental Principles of Economic Theory* (second edition), Clarendon Press, Oxford 1968.

Hicks, J. R. 1939b, "The Foundations of Welfare Economics," *Economic Journal.*

High, Jack (ed.) 2006, *Humane Economics (Essays in Honor of Don Lavoie)*, New Thinking in Political Economy, Edward Elgar, U.K.

Hildrith, C. 1953, "Alternative Conditions for Social Orderings," *Econometrica.*

Hirshleifer, J. and Hirshleifer, D. 1998, *Price Theory and Applications,* International Edition (Sixth Edition), Prentice-Hall International Inc., N.J.

Hosmer, L. T. and Chen, F. 2001, "Ethics and Economics: Growing Opportunities for Joint Research," *Business Ethics Quarterly* 11 (4): 599–622.

Humphrey, T. M. 1974, "The Quantity Theory of Money: its Historical Evolution and Role in Policy Debates," *Economic Review,* Federal Reserve Bank of Richmond (May/June): 2–19.

Hutchinson, T. W. 1977, *Knowledge and Ignorance in Economics,* Blackwell, Oxford.

Institute of Islamic Banking and Insurance (IIBI) 2000, *Islamic Banking and its Operations*, London.

Institute of Islamic Banking and Insurance (IIBI) 2001, *Encyclopedia of Islamic Banking and Insurance*, London.

International Monetary Fund 1998, "Should Equity be a Goal of Economic Policy?", *Economic Issues* 16, IMF Fiscal Affairs Department, Washington D.C.

Iqbal, M. (ed.) 2001, *Islamic Banking and Finance: Current Developments in Theory and Practice,* Islamic Foundation, U.K.

Johnson, H. G. 1974, "Major Issues in Monetary Economics," *Oxford Economic Papers* (New Series) 26 (2).

Junankar, P. N. 1972, *Investment: Theories and Evidence,* Macmillan Studies in Economics, the Anchor Press Ltd., U.K.

Just, Richard E., Hueth, Darrell L., and Schmitz, Andrew 1982, *Applied Welfare Economics and Public Policy,* Prentice-Hall, Inc., Englewood Cliffs, N.J.

Kaldor, N. 1939, "Welfare Comparisons of Economics and Interpersonal Comparisons of Utilities," *Economic Journal.*

Kalecki, M. 1937, "The Principle of Increasing Risk," *Economica* (November).

Keynes, J. M. 1923, *A Tract on Monetary Reform,* Macmillan & Co., London.

Keynes, J. M. 1930, *A Treatise on Money,* Harcourt, Brace & World, Inc.

Keynes, J. M. 1936 [1964], *The General Theory of Employment, Interest, and Money,* Harcourt, Brace & World Inc., N.Y.

Keynes, J. M. 1972, "Essays in Biography" in *The Collected Works of John Maynard Keynes,* Macmillan, London.

Khan, Mohsin S. 1985, *Islamic Interest-free Banking: A Theoretical Analysis,* International Monetary Fund (IMF) DM/85/54 Sept.11.

Khan, Mohsin S. and Mirakhor, A. (eds) 1987, *Theoretical Studies in Islamic Banking and Finance*; The Institute for Research and Islamic Studies, Texas.

Khan, Zafar A. 2000, *Islamic Banking and its Operations*; Institute of Islamic Banking and Insurance, London.

Khomeini, Al-Baiee (Arabic) 1363 = 1984, Islamian Printing Co. (third edition).

Kregel, J. A. 1976, *Theory of Capital,* the Macmillan Press Ltd., London.

Lavoie, D. 1991, "The Discovery and Interpretation of Profit Opportunities: Culture and the Kirznerian Entrepreneur" in *The Culture*

of Entrepreneurship, B. Berger (ed.), Institute for Contemporary Studies Press, San Francisco.

Layard, P. R. G. and Walters, A. A. 1978, *Microeconomic Theory,* McGraw-Hill Book Company, N.Y.

Le Roy, S. F. and Porter, R. D. 1981, "Tests Based on Implied Variance Bounds," *Econometrica* 49 (3): 555–74.

Lerner, A. P. 1944, *The Economics of Control*, Macmillan, N.Y.

Lerner, A. P. 1961, "Consumption-Loan Interest and Money," *Journal of Political Economy*, 1961: 512–27.

Little, I. M. D. 1963, *A Critique of Welfare Economics* (second edition), Oxford University Press, Oxford.

Luckett, D. G. 1984, *Money and Banking* (third edition), McGraw-Hill Book Company, London.

Lumby, S. 1983, *Investment Appraisal and Related Decisions*, Van Nostrand Reinhold (U.K.) Co. Ltd.

Lutz, F. A. 1940, "The Structure of Interest Rates," *Quarterly Journal of Economics* (November).

Maalemos-Sonan 1932 in *The Nature of Money* 1377 = 1998.

Majlessi, M. Baghir 1981, "Mizan-ul Maqadeer" in *The Nature of Money* 1377 = 1998.

Makinen, Gail E. 1977, *Money, Price Level, and Interest Rates (An Introduction to Monetary Theory)*, Prentice-Hall Inc., N.J.

Marshall, A. 1923, *Money, Credit and Commerce*, reprinted 1960 by Augustus M. Kelley Publishers.

Marshall, Alfred 1953, *Principles of Economics*.

Marx, K. 1887, *Capital* (three volumes), Swan Sonnenschein, Lowry & Company; translated from the third German edition, London.

McKinnon, R. I. 1973, *Money and Capital in Economic Development*, Brookings Institution.

McVane, S. M. 1887, "Analysis of Cost of Production," *Quarterly Journal of Economics* 1, Harvard University, Boston.

Meade, J. E. 1976, *The Just Economy* (Vol. 4 of *Principles of Political Economy*), George Allen & Unwin, London.

Menger, C. 1883 [1985], *Investigations into the Methods of the Social Sciences with Special Reference to Economics*, New York University Press.

Metzler, L. A. 1941, "The Nature and Stability of Inventory Cycles," *Review of Economic Statistics* XX111 (August): 113–29.

Metzler, L. A. 1947, "Factors Governing the Length of Inventory Cycles," *Review of Economic Statistics* XX1X (February): 1–5.

Mill, J. S.: *Essays on Some Unsettled Questions of Political Economy*; reprinted by the London School of Economics & Political Science, University of London, 1948.

Miller, R. L. and Pulsinelli, R. W. 1989, *Modern Money and Banking* (second edition), McGraw-Hill Book Company, N.Y.

Miller, R. L. and VanHoose, D. D. 1993, *Modern Money and Banking* (third edition), McGraw-Hill International Editions, N.Y.

Mises, L., Haberler, G., Rothbard, M. and Hayek, F. 1978, *The Austrian Theory of the Trade Cycle and Other Essays*, Ludwig von Mises Institute; Auburn, Ala. (1996).

Mises, Ludwig von, 1912 [1953], *The Theory of Money and Credit*, translated by H. E. Batson; The Foundation of Economic Education, N.Y.

Mishan, E. J. 1957, "A Reappraisal of the Principles of Resource Allocation," *Economica.*

Miyanishi, K. and Suzuki, K. 2007, *Cooperative Behavior with Common Information Controller in Minority Game*, Springer, Berlin.

Morishima, M. 1973, *Marx's Economics: A Dual Theory of Value and Growth*, Cambridge University Press, Cambridge.

Morley, S. A. 1979, *Inflation and Unemployment* (second edition), The Dryden Press, Illinois.

Moseley, F.: "The Decline of the Rate of Profit in the Postwar US Economy: A Comment on Brenner"; adopted from the Internet; date unknown.

Mueller, M. G. (ed.) 1966, *Readings in Macroeconomics*, Holt, Rinehart and Winston, Inc., N.Y.

Mukherji, Badal 1984, *Theory of Growth of a Firm in a Zero Interest Rate Economy*, Centre for Research in Islamic Economics; King Abdulaziz University, Jeddah, Saudi Arabia.

Mulligan, R. F. undated, Property Rights and Time Preference, unpublished manuscript.

Mullins, M. 1988, "Meltdown Monday or Meltdown Money: Consequences of the Causes of a Stock Market Crash," Special Paper No.11 from the LSE Financial Markets Group Special Paper Series.

Murnighan, J., King, T. R. and Schoumaker, F. 1990, "The Dynamics of Cooperation in Asymmetric Dilemmas" in *Advances in Group Processes* 7: 179–202; JAI Press, Greenwich, Connecticut.

Mutahhari, Murtada 1985, *Society and History*; translated from the Persian by Mahliqa Qara'I, Islamic Propagation Organization, Tehran.

Myrdal, G. 1974, *Against the Stream (Critical Essays on Economics)*, The Macmillan Press Ltd., London.

Nash, J. F. 1953, "Two-Person Cooperative Games," *Econometrica* 21: 128–40.

Nath, S. K. 1976, *A Reappraisal of Welfare Economics*, Routledge and Kegan Paul, London.

North, Douglas C. 1992, *The New Institutional Economics and Development*, Washington University Press, St. Louis.

Obreiter, P. and Nimis, J. 2003, "A Taxonomy of Incentive Patterns—The Design Space of Incentives for Cooperation," html version of the file http://p2p.ingce.unibo.it/2003.

Olson, M. and Bailey, M. J. 1981, "Positive Time Preference," *Journal of Political Economy* 89: 1–15.

Orphanides, A. and Solow R. M. 1990, "Money, Inflation, and Growth" in Friedman B. M. and Hahn F. H. (eds), *Handbook of Monetary Economics*, Elsevier Science Publishers B.V., Amsterdam.

Ostrom, E. 1990, *Governing the Commons: The Evolution of Institutions for Collective Action*; Cambridge University Press, Cambridge.

Papademos, L. 2003, "The Contribution of Monetary Policy to Economic Growth," European Central Bank, 31st Economics Conference, Vienna (June 12).

Patinkin, D. 1969, "The Chicago Tradition, the Quantity Theory and Friedman," *Journal of Money, Credit and Banking*, 1 (1) (Feb.): 46–70.

Patterson, S. H. (ed.) 1932, *Readings in the History of Economic Thought*, McGraw-Hill Book Company, N.Y.

Pesek, B. and Saving, T. R. 1967, *Money, Wealth, and Economic Theory*, Macmillan, N.Y.

Pierce, D. G. and Shaw, D. M. 1974, *Monetary Economics: Theories, Evidence, and Policy*, Crand Russak & Company, Inc. NY.

Pigou, A. C. 1917, "The Value of Money," *Quarterly Journal of Economics* 32.

Quran, *The Glorious*, translated and commentary by Abdullah Yusuf Ali, The Muslim Students' Association of The United States and Canada, May 1975.

Rapoport, A. and Chammah, A. M. 1965, *Prisoner's Dilemma: A Study in Conflict and Cooperation*, University of Michigan Press.

Rapoport, A. 1970, *N-Person Game Theory (Concepts and Applications)*, The University of Michigan Press.

Rawls, J. A. 1971, *A Theory of Justice*, Oxford University Press.

Ricardo, D. 1817 [1951], *Principles of Political Economy and Taxation*, edited by P. Sraffa, Cambridge University Press, Cambridge.

Rima, Ingrid J. 1967, *Development of Economic Analysis*, fifth edition (1996), Routledge, London.

Rist, C. 1940, *History of Monetary and Credit Theory*, the Macmillan Company, N.Y.

Robinson, Joan 1953, "The Production Function and the Theory of Capital," *Review of Economic Studies*.

Robinson, J. 1962, *Economic Philosophy*, C. A. Watts, London.

Robinson, J. 1977, "What are the Questions," *Journal of Economic Literature* xv (4): 1318–39.

Robinson, Joan 1979 [1996], *Contributions to Modern Economics: Marx, Marshall and Keynes*, Basil Blackwell, Oxford.

Robinson, Joan, *Collected Economic Papers (1951–80)*, Vol. ii: 176, Basil Blackwell, Oxford.

Roll, Eric 1961, *A History of Economic Thought* (third edition), Prentice-Hall Inc., Englewood Cliffs, N.J.

Ross, S. A., Westerfield, R. W., and Jaffe, J. F. 1990, *Corporate Finance* (second edition), Richard D. Irwin Inc., Illinois.

Rothbard, M. N. 1962, *Man, Economy, and State*, Institute for Human Studies, Menlo Park, California.

Routh, G. 1975, *The Origin of Economic Ideas*, the Macmillan Press Ltd., London.

Rowan, D. C. and Mayer, T. 1972, *Intermediate Macroeconomics (Output, Inflation, and Growth)*, W. W. Norton & Company Inc., N.Y.

Rymes, T. K. 1971, *On Concepts of Capital and Technical Change*, Cambridge University Press.

Sadre, M. B., *Iqtisade-Maa* (Persian) in two vols: Vol. One (1350 = 1971) and Vol. Two (1357 = 1978), Tehran.

Samuelson, P. A. 1954, "The Pure Theory of Public Expenditure," *The Review of Economics and Statistics* 36 (4): 387–9.

Samuelson, P. A. 1958, "An Exact Consumption-Loan Model of Interest with or without the Social Contrivance of Money," *Journal of Political Economy* 36: 467–82.

Samuelson, P. A. 1963, "Problems of Methodology—Discussion," *American Economic Review* 53(2): 231–6.

Samuelson, P. A. 1964, *Economics, An Introductory Analysis* (sixth edition), McGraw-Hill Book Company, N.Y.

Samuelson, P. A. 2001, "Paradoxes of Schumpeter's Zero Interest Rate," The *Review of Economics and Statistics*: 391–2.

Saving, T. 1970, "Outside Money, Inside Money, and the Real Balance Effect," *Journal of Money, Credit and Banking* (February).

Say, J. B. 1932, "A Treatise on Political Economy" in Patterson S. Howard (ed.), *Readings in the History of Economic Thought*, N.Y.

Sayers, R. S. 1960, "Monetary Thought and Monetary Policy in England," *Economic Journal* 70 (4): 710–24.

Schelling, T. C. 1960, *The Strategy of Conflict*, Harvard University Press, Cambridge MA.

Schumacher, E. F. 1975, *Small is Beautiful (Economics as if People Matter)*, Harper & Row Publishers, N.Y.

Schumpeter, J. A. 1942 [1962], *Capitalism, Socialism, and Democracy* (third edition), Harper Torchbooks, N.Y.

Schumpeter, J. A. 1994, *History of Economic Analysis*, Routledge, London.

Scitovsky, T. 1977, *The Joyless Economy: An Inquiry into Human Satisfaction and Consumer Dissatisfaction*, Oxford University Press, Oxford.

Sen, A. 1987, *On Ethics and Economics*, Blackwell, Oxford.

Sen, S. R. 1947, "Sir James Stewart's *General Theory* of Employment, Interest and Money," *Economica* 14: 19–36.

Shapely, L. S. 1959, "The Solutions of a Symmetric Market Game" in Luce R. D. and Tucker, A. W. (eds), *Contributions to the Theory of Games, IV* (Annals of Mathematics Studies 40), Princeton University Press, Princeton, N.J.).

Shapiro, E. 1974, *Macroeconomic Analysis* (third edition), Harcourt Brace Jovanovich Inc., N.Y.

Shiller, R. J. 1981, "Do Stock Prices Move Too Much To Be Justified by Subsequent Changes in Dividends?" *American Economic Review* 71 (3): 421–35.

Shiller, R. J. 1990, *Market Volatility*, MIT Press, London.

Shirazi, H. (ed.) 1988, *Islamic Banking Contracts*, Banking Training Centre, Central Bank of the Islamic Republic of Iran.

Shubik, M. (ed.) 1964, *Game Theory and Related Approaches to Human Behavior*, John Wiley & Sons, N.Y.

Siddiqi, M. N. 1973, *Banking Without Interest*, Pakistan.

Siegel, J. J. 2003, "The Stock Market Crash of 1987: A Macro-Finance Perspective," Rodney L. White Center for Financial Research Working Papers (July 17).

Silberberg, E. 1990, *The Structure of Economics (A Mathematical Analysis)* (second edition), McGraw-Hill Inc., N.Y.

Smith, A. 1759 [1976], *The Theory of Moral Sentiments*, Liberty Classics, Indianapolis, Indiana.

Smith, A. 1776 [1937], *The Wealth of Nations* (edited by Edwin Cannan) Modern Liberty, N.Y.

Soddy, Frederick 1933, *Money versus Man (A Statement of the World Problem from the Standpoint of the New Economics)*, E. P. Dutton & Co. Inc., N.Y.

Soddy, Frederick 1933, *Wealth, Virtual Wealth and Debt (The Solution of the Economic Paradox)*, George Allen and Unwin Ltd., London.

Soddy, Frederick 1934, *The Role of Money (What it Should Be, Contrasted with What it Has Become)*, George Routledge and Sons Ltd., London.

Sraffa, P. 1975, *Production of Commodities by Means of Commodities (Prelude to a Critique of Economic Theory)*, Cambridge University Press, Cambridge.

Stein, J. 1970, "Monetary Growth Theory in Perspective," *American Economic Review* 60 (1): 85–106.

Stiglitz, J. E. 2002, *Globalization and Its Discontents*, W. W. Norton & Co., N.Y.

Sugden, R. 1986, *The Evolution of Rights, Cooperation and Welfare*, Basil Blackwell, N.Y.

Tabellini, G. 2007, *The Scope of Cooperation: Norms and Incentives* (Feb) http://www.dklevin.com/archive/refs.

Taylor, J. M. 2003, "Islamic Banking—The Feasibility of Establishing an Islamic Bank in the United States," *American Business Law Journal* 40: 385—416.

Tobin, J. 1958, "Liquidity Preference as Behaviour Toward Risk," *Review of Economic Studies* (February).

Tobin, J. 1961, "Monetary Theory: New and Old Looks (Money, Capital, and Other Stores of Value)," *American Economic Review* (May): 26–37.

Toutounchian, I. 1977, Consumer Durables, Investment, and Family Financial Cooperatives in an Islamic Framework, unpublished Ph.D. Dissertation, Texas A & M University.

Toutounchian, I. 1984 = 1363, *Demand Theory and Economic Analysis of Infaq* (in Persian), Markaz Motale-at Fanni Iran, Tehran.

Toutounchian, I. 1988, "A Brief Comparison between Cost of Capital in Interest-based and Interest-free Systems" (in Persian), *Journal of Economic Research* 40: 1–27, Tehran University.

Toutounchian, I. 1989, "Money in Islamic Economics" (in Persian), *Journal of Economics and Management* 2: 62–9, Azad-Islamic University.

Toutounchian, I. 1990a, "Analysis of Profit-Sharing Mechanism in Islamic Banking"; a paper presented in the first seminar on Monetary and Exchange-Rate policies, Central Bank of the Islamic Republic of Iran (February).

Toutounchian, I. 1990b "Theoretical Aspects of Islamic Money and Banking"; a paper presented in the first seminar on Islamic Banking, Central Bank of the Islamic Republic of Iran (September).

Toutounchian, I. 1991, "A Discussion on volume of Money and Stock of Capital in an Islamic Economy"; a paper presented in the second seminar on Islamic banking, Central Bank of the Islamic Republic of Iran (September).

Toutounchian, I. 1992a, " The Role of Islamic Banking in Investment"; a paper presented in the second seminar on Monetary and Exchange Rate Policies, Central Bank of the Islamic Republic of Iran (May).

Toutounchian, I. 1992b, "The Role of Islamic Banking in Distribution of Income"; a paper presented in the third one-day seminar on Islamic Banking: Iran-Banking Institute, Tehran (August).

Toutounchian, I. 1993a, "A Dynamic Islamic-Macro Model: Simulation"; a paper presented in the third seminar on Monetary and Exchange Rate policies, Central Bank of the Islamic Republic of Iran (May).

Toutounchian, I. 1993b, "Comparison of Velocity of Money in both Capitalistic and Islamic Systems"; a paper presented in the fourth seminar on Islamic Banking, Central Bank of the Islamic Republic of Iran (September).

Toutounchian, I. 1995, "Resource Mobilization for Government Expenditures through Islamic Modes of Contract: The Case of Iran," *Islamic Economic Studies* 2 (2): 35–58.

Toutounchian, I. 1375 = 1996, "Interest-based Banking is both Inflationary and the Cause of Economic Instability"; a paper presented in the Sixth Conference on Monetary and Exchange Rate Regime, Central Bank of the Islamic Republic of Iran.

Toutounchian, I. 1998/99, "Labor's Income Share in an Islamic Framework," *Humanomics* 14 (4) and 15 (1): 137–66.

Toutounchian, I. 1379 = 2000/01, *Islamic Money and Banking and its Comparison with Capitalism*, Tavangaran, Tehran.

Toutounchian, I. 2003, "Competing IRRs in Islamic Banking and Zero Cost of Capital," *New Horizon* (February): 9–14, Institute of Islamic Banking and Insurance, London.

Toutounchian, I. 2004a, "Islamic Banking: A Last Ditch to Save Capitalism," *New Horizon* (February), Institute of Islamic Banking and Insurance, London.

Toutounchian, I. 2004b, "The Role of the Central Bank in Islamic Banking"; a paper presented at a conference on Islamic Banking, Bank of England, London.

Toutounchian, I. 2006, "Integrating Money in Capital Theory: A Legal Perspective (Islamic Finance)," *Journal of the International Association for Islamic Economics and the Islamic Foundation* 10 (2): 75–113.

Tullock, G. 1975, "Competing Monies," *Journal of Money, Credit, and Banking* (November).

Turgot. A. R. J. 1911, *Reflections on the Formation and Distribution of Wealth* (English edition 1898), Macmillan and Co., London.

van Doorn, J. 1975, *Disequilibrium Economics*, The Macmillan Press Ltd., London.

VonNewmann, J. and Morgenstern O. 1947, *Theory of Games and Economic Behavior*, Princeton University Press.

Weintraub, E. R. 1975, *Conflict and Cooperation in Economics*, Macmillan Studies in Economics, the Macmillan Press Ltd., U.K.

Weintraub, S. 1966, *A Keynesian Theory of Employment, Growth & Income Distribution*, Chilton Books Publishers, Philadelphia.

Weitzman, Martin L. 1984, *The Share Economy (Conquering Stagflation)*, Harvard University Press, Cambridge, MA.

White, W. H. 1966, "Interest Inelasticity of Investment Demand— The Case from Business Attitude Surveys Re-examined" in Mueller, M.G. (ed.), *Readings in Macroeconomics*, Holt Rinehart and Winston Inc., N.Y.: 95–113.

Wicksell, K. 1901 [1934], *Lectures in Political Economy* (translated by E. Classen), Routledge and Kegan Paul, London.

Wiles, P. and Routh, G. (eds) 1984, *Economics in Disarray*, Basil Blackwell, Oxford.

Wilken, F. 1982, *The Liberation of Capital*, Allen & Unwin, London.

Wolff, E. 2003, "The Wealth Divide: The Growing Gap in the United States between the Rich and the Rest," *Multinational Monitor* 24(5).

Wood, Adrian 1975, *A Theory of Profits*, Cambridge University Press, Cambridge.

Yousefi, A. A. 1377 = 1998, *The Nature of Money (its religious and economic strategies)* (in Persian), Academy of Islamic Culture and Thought.

Yusuf Ali, A. 1975, Al-Quran: Text, Translation, and Commentary, the Muslim Students' Association of the United States and Canada.

Zarqa, A. 1980, "Islamic Economics: An Approach to Human Welfare" in *Studies in Islamic Economics*: 3–18; Islamic Foundation, Leicester.

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