

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
KING ABDULAZIZ UNIVERSITY
Islamic Economics Research Centre

Teaching Islamic Economics

Dr. Muhammad Nejatullah Siddiqi

1426/2005

**Scientific Publishing Centre
King Abdulaziz University
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PREFACE

The objective of this monograph is to help teachers of economics in introducing Islamic concepts and precepts in their courses. The contents have been discussed in forums, organized by the Center for Research in Islamic Economics, which attracted many senior teachers of the subject. Though the author alone is responsible for deficiencies in what follows, insights provided by the participants have enriched the material being presented.

Many professors are trying to enrich their teaching of Economics by drawing upon the Islamic intellectual and cultural heritage. These efforts will continue. It will take sometime before a uniform approach takes shape. What is important is that the essential advantages of systematic study afforded by the discipline of economics are retained while adjusting the contents of courses in economics to the needs and aspirations of resurgent Islam in the global village. As befits global living, the universal and cosmopolitan nature of Islamic teachings in economic affairs bear the promise of a vision everyone can share. I present the suggestions made in this publication to every student and teacher of economics, especially those who are worried about the direction in which conventional economics has been leading us so far.

I conclude on a note of thanks to the Islamic Economics Research Center, and its Deputy Director for Syllabus Affairs, Dr. Abdullah Qurban Turkistani, for their decision to re-publish these papers and to give me an opportunity of revising them before publication.

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FOREWORD

Islamic economics as a discipline has come of age. The last couple of decades have witnessed a remarkable upsurge in research and publication in the various areas of Islamic economics. In trying to keep pace with this trend, several universities and institutions of higher learning across the globe have introduced study programs in this area. A common problem faced by them however, is absence of well-organized text books and material for instructor guidance.

Institution and organization of researches (theoretical and empirical) on Islamic Economics, and curricular books for teaching courses on Islamic Economics at universities worldwide is an avowed objective of the Islamic Economics Research Centre. As a pioneering effort and in conformity with its objective, the Centre about two decades back had published a monograph by Dr. Muhammad Nejatullah Siddiqi on Teaching of Islamic Economics, containing detailed methodological suggestions. Since much has been written and published in the field since then, there was a need to thoroughly revise and update the text. This has been attempted in the present publication. I appreciate the efforts of Dr. Siddiqi in this regard and hope teachers of Islamic economics would greatly benefit from the present text.

Dr Muhammad Najeeb Ghazali Khayat
Director
Islamic Economics Research Center

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PART I
MICROECONOMICS

Microeconomics

1.1 The Perspective

Islam is an art of living, not a science. What do we do if the science of economics is to be studied so that it can be helpful in the Islamic art of living? Obviously it requires taking salient features of that art into account. We do it at two levels. In theory and analysis these features tell us what is relevant. In policy these features tell us what is important to achieve and what means are available. Man as observed behaving and man as he ought to behave in accordance with Islamic teachings, both need be kept in focus. The science of economics helps in the first task, knowledge of Islam helps in the second. But the two are not in separate watertight compartments when it comes to Muslim behavior. In this case what is observed already has some impact of that knowledge. The impact would differ from time to time, place to place, even from person to person. But a mental exercise, that is, our imagination, can help us guess the likely impact, broadly stated so as to accommodate these differences.

Economics as we know it is not built on observing the behavior of Muslim peoples. Despite its claims to universality, it is built on observation of, and imagining of, the behavior of people in the British Isles and western Europe in the 17th century onwards and, lately, in North America. Microeconomic analysis in Islamic perspective has to make up for this deficiency. Our method of doing so is to imagine a people working under the influence of Islamic teachings. We shall also supplement this by historical evidence of Muslim behavior. Also current data on Muslim behavior will be utilized.

The salient features mentioned above include Islamic norms of behavior and goals of Islamic society. Economics in the classical period comprised positive as well as normative studies. It also discussed policies through which society could achieve its goals. These studies still continue, providing teaching of economics in Islamic perspective a vast space. The Islamic perspective can bring its own light into relevant areas of positive and normative economics, along with policies designed for Muslim societies of the day.

1.2 Where to Start?

The starting point in teaching economics in Islamic perspective is to view man as a whole and his chief concern in life. Survival-with- dignity comes first, but it should mesh in with man's goal according to Islam: seeking the pleasure of Allah through submission to His will and pursuit of such ends and values as would please Him. These extend beyond personal interests as they focus on ordering human life on earth in accordance with divine guidance. Since such a mission necessitates a vigorous and

efficient life, Islam's concern with man's economic life extends beyond need fulfillment to increase in resources and their utilization for the good of humanity. Starting from needs and their fulfillment, economics in the Islamic perspective has to encompass the vast expanse of economic activities born of value oriented development. Environmental balance, distributive justice and aesthetic and spiritual progress are important aspects of the desired economic well-being. All this is predicated on freedom in submission to Allah or what amounts to the same, freedom in pursuit of value, as it is the very essence of being human.

1.3 Needs

One can distinguish between needs that can be satisfied by goods and services that are measurable and marketable and those that are not, such as love and affection, sense of belonging, etc. Even though economics deals with the first kind of needs, the second type has to be kept in mind.

It is necessary to pay attention to needs and their fulfillment because economic activities of the individual as well as social policies directed at economic ends spring from the necessity of need fulfillment in the first instance. Also, since Islam attaches great importance to universal need fulfillment, this subject should receive major attention. The teacher can draw upon the discussion on needs by Islamic jurists, especially that by Shatibi¹, as well as upon recent works on humanistic economics, social economics and ethics in economics.

Shall economic theory ignore needs not backed by purchasing power and focus on 'wants'? That is how the functioning of the market has been analyzed. But economics is not the science of market only. Its nature as a social science necessitates due attention to goals of society among which universal need-fulfillment is on top.

1.4 Resources and their Relative Scarcity

From a discussion of needs and what is required for their fulfillment we pass on to the relative scarcity of the material means of need fulfillment and the means of pursuing higher values and performing one's mission. We may note, referring to the reality as we observe it, that even though resources are flexible, capable of expanding, scarcity is almost always there, necessitating labor and enterprise for acquiring the required means and obliging us to 'economize' in the employment of these means. Scarcity necessitates choice and a study of how choice is made becomes important.

1. Abu Ishaq al Shatibi (d. 790 H. / 1388 AD) famous for his study on the goals of *Shari'ah*..Refer to Mohammad Khalid Masud: *Islamic Legal Philosophy, A Study of Abu Ishaq al Shatibi's Life and Thought*, Islamabad, Islamic Research Institute, 1977.

To understand how choice is made we have to make certain assumptions regarding the one who makes the choice as well as regarding the world outside the decision maker. These assumptions relate, generally speaking, to availability of information, motive of the decision maker, his state of awareness and consistency of his decisions. They also relate to society and its institutions e.g., whether men are free to make a choice; are there certain constraints attending their freedom; what powers of acquisition and disposal they enjoy over things; etc. The student should be made to understand very clearly that whereas *some* assumption is inevitable the particular assumptions we make are going to be very crucial for the outcome of our analysis.

This should be followed by a similar clarification regarding abstractions. To abstract from certain aspects of reality is necessary in order to analyze, generalize and arrive at conclusions that could be of universal validity or at least of fairly general validity with known limitations. The reality is often far too complex and we have to simplify in order to grasp what is essential. We have to omit details and ignore variety of circumstances in order to set up a simple pattern relating different facts.

1.5 Rationality

Next we take up the concept of 'rationality' in behavior. Providing a brief critique of the concept of economic rationality in conventional text- books it has to be pointed out that one can reject the concept of the economic man and still assume rationality of a sort. What is essential is that choice is made after due deliberation on the basis of some relevant information with a view to achieving known ends.

2.1 Institutional Framework

We have to introduce certain institutional arrangements that define the world in which economic decisions are made and economic activities are conducted.

The institutional framework in an Islamic society can be briefly noted as follows:

- i) Although absolute ownership belongs to Allah, Islam recognizes ownership rights for the individual as well as for society, the latter quite often being represented by the state. Private property is a trust involving obligations towards others and subject to constraints in its acquisition, use and disposal. Public property too is a trust, the trustees being accountable to people as well as to Allah.
- ii) Freedom of enterprise including freedom of contract is granted subject to constraints designed to protect the interest of others. Competition is therefore permitted, with due care not to harm others.

- iii) In joint enterprise profits will be shared by all those who bear the risks and uncertainties involved. The lender to whom the repayment of the principal is guaranteed is not entitled to any return.
- iv) Mutual consultation should be the basis of political organization.
- v) Muslims should care for one another and help those in need. There is a role for voluntary organizations in this regard. The state has the responsibility and the power to ensure, through collective action, realization of the Islamic goals. Individuals too have inviolable rights and it is the people who have the power to appoint state functionaries.

It is advisable to point out the significant differences between the above and the institutional pattern assumed in the conventional text- books. Four specific points can be easily emphasized: (1) constraints on freedom, (2) obligations attending upon rights, (3) the emphasis on mutual consultation, cooperation and helping behavior, and (4) role of the state in realizing Islamic goals.

It may also be pointed out that despite these significant departures, conventional economic analysis still remains useful in view of the fact that the assumptions of private property, free enterprise and competition are common to both. They have only been complemented by what puts them in proper perspective, minimizes possible negative fall-outs and guides them to positive achievements.

2.2 Goals of the Islamic Economy

A brief statement on the goals of an Islamic economy is called for before we proceed to economic analysis. In very simple terms we can characterize this goal as economic well-being. Introducing very briefly the basic Islamic concept of *Tawheed* and making reference to the relevant texts from the Quran and the *Sunnah*, the desirability of economic well-being can be established. Economic well-being is not, however, a value realized in isolation from or independent of the higher moral and spiritual values. Men and women should produce, distribute and consume wealth in such a manner that they are able to live a well-provisioned life, free in submission to Allah, as equal members of human family being fair to one another and cooperating among themselves. This can be spelled out in a number of specific goals. The following stand out prominently in our context:

- i) Fulfillment of the basic needs for food, clothing, shelter, medical care and education for all humans.
- ii) Ensuring equality of opportunity to all.

- iii) Preventing concentration of wealth and reducing inequality in the distribution of income and wealth so as, among other things, wealth does not become a means of domination of man by man.
- iv) Ensuring to all the freedom to pursue moral excellence.
- v) Ensuring stability and economic growth to an extent necessary for realization of the above-mentioned goals.

2.3 Implications for Economic Analysis: Beyond the Market

Recognition of certain goals that guide economic agents and an institutional pattern that constrains freedoms and assigns an active role to the state would take economics far beyond the free market economy. We would still be analyzing the functioning of the market: how demand and supply determine prices and all that, but we would not stop there. Since free functioning of the market can neither ensure fulfillment of the basic needs of all nor the realization of the other goals noted above, some action outside the market is necessary. What form these actions should take and when they should be taken becomes a subject of study for economics as it involves interfering with the market—the focus of economic analysis. Take the obvious case of individuals who have neither wealth nor income, so that they cannot fulfill their needs on their own. Some of these may not have the capacity to acquire wealth or income, being too old, too young, invalid, etc., while others may have the capacity but fail to find an opportunity, and so on. How to ensure their need fulfillment? How to realize for them some of the other goals listed above which presuppose survival and efficiency? One simple solution is to transfer enough income (and/or wealth) to them to enable them to enter the market like any other individual. This solution, however, raises the questions from whom to transfer and how much to transfer, and through what mechanism shall this transfer take place, etc. Shall the Social Authority confine itself to effecting transfers out of wealth currently produced, in the short run, or shall it take steps to redistribute property in the long run, as a solution to the same problem? What about creating job opportunities and improving the capacity to earn through education and training?

2.4 Motives

Just as recognition of goals and acceptance of obligations and constraints on property rights and freedom of enterprise has implications for economic analysis taking it beyond the market, it has significant implications for the assumptions we make regarding the motives of the consumer, the producer, etc. As pointed briefly in the paragraph on rationality above, the 'economic man' cannot survive in a goal-oriented economy recognizing constraints and obligations. Single-minded pursuit of self-interest militates against the basic Islamic concept of *tawheed* that implies man's concern for fellow human beings.

We do not reject self-interest. We hypothesize that other motives coexist with self-interest, qualifying it and constraining it. We shall spell out these constraints and qualifications as we analyze human behavior as a producer, a consumer, etc. The point we wish to make at this stage is that though men and women care about themselves, they also care about others. Self interest and concern about others' interest both influence decision-making. The relative strength of the two concerns, and the actual scope of 'others' for whom one cares may differ from person to person, at various times and places, etc. But the fact of dual concern is always there. Unadulterated self interest is decisive only in some circumstances for some people.

We dilute the assumption of maximization of profit in case of the producer by admitting motives other than profit, including motives that relate to others --- labor, consumers, other producers, or the entire society. It is a more realistic assumption to make in relation to the contemporary Muslim society. In fact it is a more realistic assumption even with respect to the contemporary society anywhere. Furthermore, flexibility is preferable to the very stringent assumption of profit maximization as it would accommodate various 'mixes' of profit- motive, other personal motives, and motives relating to others. It is, therefore, capable of supporting the analysis of reality as it exists, as well as the analysis of the economy given Islamic value orientation on part of the producer. Maybe, optimization is a better concept than maximization to convey the sense we want to convey.

What has been said of the motives of the producer applies to all economic agents, the consumer, the laborer, etc. In every case the interests of others may, and generally do, figure in the calculations of the decision makers and economic analysis would gain in realism as well as usefulness by taking them into consideration. That is what we propose to do, spelling out the other motives, and motives relating to others, in specific discussions.

As we have already noted above economics as a social science inevitably exercises formative role on its subject matter: the human behavior. Economics does not only understand and analyze. It also influences and forms modes of behavior. Cut throat competition, dumping, management practices favoring chief executive officers at the cost of shareholders, (remember Enron!), accounting frauds and anti-social forms of speculation and abject poverty coexisting side by side with repugnant forms of opulence and affluence are very much a creation of the maximization of profit/utility hypothesis which are called upon to explain them! Hypotheses, in social sciences in general and economics in particular, tend to become norms. Modification of these hypotheses is, therefore, a precondition for humanizing economics.

3.1 Some Tools of Analysis

Economists use certain tools in their analysis with which every student should be familiar. We can follow any standard text-book in this regard. But we have to introduce a note of caution in their use in economic analysis in the Islamic perspective. This is why we make a brief review of some of these tools.

Ceteris Paribus, or 'assuming other factors to be constant' is a sensible way of tracing the impact of change in any one of the numerous factors likely to affect a situation. If we want to study consumer's response to the fall in the price of a commodity he or she is interested in purchasing, we assume income, taste and prices of related commodities to be constant. If we think that some of these factors may also change, this can be introduced after tracing the impact of change in the factor we have chosen e.g. price of the commodity in our example. This method can be applied without any risk provided we keep remembering what factors are being held constant.

Functional relationships are the crux of economic analysis but they are invariably based on the *ceteris paribus* assumption. When we say that the quantity demanded of a commodity is a function of its price, or that the volume of savings in an economy is a function of the level of income, we are assuming certain other factors affecting demand or savings to be constant. There are some factors still left out, even when more than one factor is included in the function. Where human behavior is involved, it is impossible to include *all* the relevant factors in a functional relationship.

Functional relationships are great help in economic analysis, especially when we can calculate the value of a function on the basis of empirical data, as they help us disentangle one thread from the complex web of reality. But functions relating human behavior like savings, investment, consumption, hours of work etc., to certain variables invariably assume specific institutional arrangements such as the institution of interest, competition, private property, etc. A change in the institutional arrangements is therefore bound to necessitate a fresh look at the functional relationships discovered by economists. Empirical values of any function are generally bound by time and place, hence they cannot be treated as universally valid. This is especially so in relation to culturally determined behavior which can not be applied to a different culture. Suppose we accept the proposition that savings are a positive function of the rate of interest on the basis of empirical studies conducted in country A. The same may not apply to country B where a sizeable section of the population abhors interest, banking practices are not widespread, and other ways of earning a return to money capital are more popular. The proposition will certainly be out of place in a society in which the institution of interest does not exist.

Having introduced these notes of caution, the teacher should fully familiarize the students with the techniques of arriving at functional relationships in economics. Functional relationships should be clearly distinguished from mere *identities* that state a

relationship of equality that is true by definition. The use of *schedules* for establishing functional relationships and that of *graphs* for depicting them should also be taught. Representation of functional relationship in the form of *equations*, and the possibility of including more than one factor as *independent variables*, with the dependent *variable* shown on the left hand side of the equation should be made clear.

3.2 Laws of Economics

A study of functional relationships in economics may result in the discovery of certain laws, i.e., functional relationships of universal validity. Some laws relate to human behavior, like the law of demand, whereas some relate to the physical world, such as the law of diminishing returns². The latter are acceptable since the world of nature has stable properties being governed by uniform unchanging rules. But the notion of a 'law' in the context of human behavior involving freedom of choice is unacceptable in principle. It is better to recognize propositions like the 'law of demand' as tendencies of fairly general validity but subject to certain *ceteris paribus* conditions which need be spelled out in detail in each situation.

4.1 The Market -- its Scope and Limitations

The market process is not the only way of getting things done in the context of need fulfillment, economic growth or the other goals we cherish in life. Nevertheless it is of primary importance in a society with private property and freedom of contract. The Islamic institutional arrangement recognizes the central importance of the market process and allows it to work subject to the goals of the Islamic economy. Proper understanding of how the market functions is necessary.

The idea of the market and that of demand and supply may, in the first instance, be introduced in general terms. Most individuals are demanders as well as suppliers. We demand consumer goods and services and supply labor and other services. Those who own land, buildings, machinery etc., sell these assets or rent them out. Factors of production and productive services are demanded by firms, which produce and supply various kinds of goods and services. Every thing in the market has a price. Prices bring demanders and suppliers together in the process of exchange. Besides the households as consumers and the firms as producers the government and other social institutions also appear in the market as demanders and suppliers. It is useful to explain this 'circular flow of economic life' through simple diagrams.

2. Even this is being successfully challenged with reference to increasing returns in certain industries in the 'new economy', e.g. software industry and communications.

The market serves well when economic agents behave honestly and in fairness, evoking trust. Then, the more the availability of relevant information to all concerned the more efficiently the market will function. But its working is vitiated by exercise of economic power for private advantage. Information deficiency, fraud and deception, result in market failure and moral hazard. Islam deals with these problems by moral reorientation of economic agents and intervention by the Social Authority. These issues can be introduced briefly leaving exhaustive analysis for higher levels of study. It should *not* be claimed, however, that moral orientation solves all the problems.

4.2 Supply and Demand and Equilibrium Prices

The idea of equilibrium prices being determined by demand and supply should be explained with the help of schedules and curves. The market demand curve for a commodity generally slopes downward from left to right, indicating that the lower the price the more the quantity demanded. Exceptions are possible and some may be pointed out. It is however problematic to justify this shape of the market demand curve logically, so better defer a detailed discussion for a latter stage.

A supply schedule and the supply curve based on such a schedule indicates the amounts of a commodity supplied at various prices of the commodity. The market supply curve is obtained by a horizontal summation of individual sellers' supply curves. Supply curves generally slope upward from left to right. This slope reflects increasing costs of production in the short run. The shape of supply curve may differ depending upon the time period we take into consideration: instantaneous market supply, short run supply which allows changes in variable factors, and long run supply which allows for technological changes also, may yield supply curves with different slopes ranging between a vertical curve and a curve that slopes downward from left to right. But the curves most relevant for economic analysis are generally sloping upward from left to right. These relate to the supply of manufactured consumer goods in the short run. There is no harm in using this curve for an explanation of the working of the market mechanism as long as one remembers that when dealing with the supply of any specific commodity in a given period of time specific factors affecting the situation must be taken into consideration. This precaution is especially called for when dealing with the supply of labor (hours of work) and other productive services. One reason why the supply of productive services behaves differently from the supply of manufactured consumer goods is that it involves human behavior (i.e., behavior of the laborer, of the owner of capital, of the owner of land etc.,) much more directly than the supply of other goods does. Another important difference is that the notion of 'cost of production' applies very differently to productive services and differs from one service to another. A more detailed consideration of the supply curve may be deferred for a latter stage. Meanwhile the distinction between movements along the supply curve caused by changes in the price of the commodity and shifts of the supply curve as a result of changes in costs of production should be explained.

The equilibrium price of a commodity is indicated by the point of intersection between the supply curve and the demand curve. This is the price that clears the market i.e., the price at which the amounts willingly supplied and willingly demanded are equal. No other price can rule. The significance of this point should be impressed upon the student.

It should be pointed out that the above assumes 'other things to be constant'. Included among these 'other things' are prices of other related commodities, i.e., the state of affairs in the market of other goods and services. The equilibrium studied above is 'partial equilibrium' or equilibrium in the market of one commodity. In actual life these other things are seldom constant so the market may always be in disequilibrium. Nevertheless the concept of partial equilibrium is a very useful tool of economic analysis as it helps us understand how the market *tends* to function. It also corresponds with the observed fact that many prices change little over sufficiently long periods of time. This does not mean, however, that the other things are in fact constant. The phenomenon of stability of prices is rooted in an entirely different fact, that customs and conventions too enter price determination. It suits the consumers as well as the producers not to alter their demands and supplies in response to every change in the other factors such as incomes, prices of substitutes, costs of production etc. A detailed consideration of these 'non-economic' factors on the market may, however, be deferred to a latter stage.

5.1 Distribution: Earnings and Incomes

Access to market is through purchasing power that comes from income and wealth. There is no demand without purchasing power and no supply without a demand. Before discussing production and consumption it is, therefore, necessary to discuss how individuals get incomes - a discussion usually given the title of distribution and taken up after the discussion of consumption and production. We have reversed the order to underline the decisive importance of the *initial* distribution of income and wealth in economic life, a subject that conventional economic text books generally ignore. This will make the student realize that market demand and, therefore, pattern of production is constrained by the initial distribution of income and wealth. Emphasis on universal need fulfillment and the other goals of the economy noted above makes it imperative to correct the imbalance at its source rather than try to modify the final results of the process.

Let us now proceed to enquire how incomes are acquired. One source of income is property acquired or inherited. Some assets like a car, a house, etc., are capable of giving direct satisfaction while others like land, building, machinery, cash and bullion, shares and stock etc., can yield income streams for their owners. Another source of income is work which includes physical labor, professional services, managerial services and entrepreneurship. The quality of one's work depends on the education and

training one was given and/or could acquire. Health and nutrition are also crucial in determining the quantity and quality of work. Income from work normally comes as a contractual income like wages or salaries. Entrepreneurial profits are distinguished from these rewards by being non contractual and uncertain. The 'work' involved is a special kind of work, that of decision making in face of uncertainty and bearing the consequences of that decision, as we shall explain below.

Yet another source of incomes is grants. Grants come from individuals, institutions or the state to alleviate suffering by enabling people to fulfill their needs. Or they are given in recognition of merit, to scholars, poets, social workers, veterans, etc. Sometimes both need and merit is taken into consideration as are services rendered in the past or expected in the future. Grants play a substantial role in economic life, especially if we take intra family grants into consideration besides the 'welfare' programs of the modern states.

We proceed in what follows to study the various categories of income in some detail.

5.2 Labor and its Wages

Economists apply the apparatus of demand and supply to study the determination of wages, as they apply it to all prices. Demand for labor, like the demand for any factor of production, is a derived demand. The concept of derived demand and the resulting concepts of physical productivity, value of the product and revenue productivity should be explained. The difficulties in calculating the marginal revenue productivity of labor and basing the demand curve for labor on it should be highlighted. The limitations of the marginal productivity theory mainly stem from the imperfections in the market e.g., lack of divisibility, mobility, information etc. Another source of limitation is the assumption of constant returns to scale. These can be discussed with reference to the vast literature available on the subject. Yet another source of reservation about the marginal productivity theory of wages is institutional and historical factors that cause rigidity in wage structures and make wage differentials to stay permanently. After discussing these limitations it may be noted that the notion of marginal productivity as the basis of demand for labor may be retained in view of the fact that we have no alternative to it, but this should not create any illusions and the aforementioned limitations should always be kept in view when applying the theory to any specific situation.

The supply of labor is also a complex affair, since an individual supply curve of the usual shape, sloping upward from left to right, involves the assumption that all work involves pain (or disutility) that increases as hours increase. This is not always true. Absence of work itself is often painful, irrespective of the loss of income involved. In other words, useful work is a basic human need. To try to bypass this issue by using

indifference curves between leisure and hours of work does not solve the problem as leisure is not a substitute for the kind of work we regard as a basic need. Furthermore, human behavior with respect to supply of work is deeply influenced by the institutional arrangements in a society. Availability of grants on the basis of need, real choice between alternative types of work, opportunity of participation in management, etc., influence the decision to supply work in different ways. To treat hours of work supplied as an increasing function of the rate of wages per hour ignores all these 'other things'.

At the level of the economy as a whole the shape of the supply of labor curve involves the whole population, its composition and its rate of growth.

In between the two, the individual supply of labor curve and the supply curve of labor in the economy, we have the supply of labor curve for a particular industry, and that for a particular firm in that industry. An upward sloping curve in the former case and a horizontal curve (unlimited supply at the going rate of wages) in the latter may be used for explanatory purposes, specific considerations relating to 'other things' being introduced when dealing with specific situations.

Bringing together the supply of labor curve for a particular industry and the demand of labor curve by that industry, determination of wages for a particular kind of labor may be shown as effected by demand and supply. The upward rising supply curve may be justified on the ground that as higher wages are offered in a particular industry, laborers are attracted away from other industries to this particular industry, *other things remaining the same*. The downward sloping demand for labor curve at the industry level is arrived at by horizontal summation of the demand curves of the firms in that industry, which in their turn are based on the marginal revenue productivity of labor in these firms.

The above is based on the usual assumption that every economic agent seeks to maximize its own profits and labor seeks maximum wages. Let us now introduce a modification of this hypothesis and assume that laborers as well as their employer, the producer, may care for each other and for others in the society: other laborers, other producers, the consumers, etc. The following are some of the situations that may arise.

- i) There may be increasing returns to scale, total revenue product being more than the sum of the marginal products enabling the producer to pay wages higher than the revenue productivity of labor, should the situation call for such a measure.
- ii) Labor may be paid a wage higher than the marginal revenue productivity at the cost of the returns to capital and enterprise i.e., out of profit, should the situation call for such a measure.

- iii) Consumers may agree to a higher price so that marginal revenue productivity of labor rises and labor is paid a higher wage accordingly, should the situation call for such a measure. This can be likened to a tax per unit of the product on those who consume that product, the proceeds being added to wages.
- iv) Labor may agree to a wage lower than its marginal revenue productivity, so that increased profits can be re-invested in the industry creating more jobs, or in order to enable the producers to lower the price of the commodity in the interest of the consumers (which lower price will eventually lower the marginal revenue productivity making it equal to the lower wage rate).

In a cooperative framework where decisions affecting several parties are taken by mutual consultation and every economic agent takes other's interests into consideration besides his own self interest, none of these possibilities can be dismissed out of hand. But it may not be the normal state of affairs. Rather it might happen during a people's struggle to lift them-selves up from poverty or handle an emergence like war or a natural disaster. The marginal productivity theory and the usual supply curve may continue being used in the study of wages as relevant for long run competitive equilibrium. However, the new factors arising from the motivation of the economic agents and the institutional arrangements assumed above have to be taken into consideration in arriving at conclusion in any specific situation.

Collective bargaining and the role of government in wage settlements should also be considered in the same light. Advantages and disadvantages of minimum wage legislation may also be discussed in the same light. The point to be discussed is this: when labor and employers both are guided only by self interest, neither caring about the interest of the other or that of the society, a confrontation takes place which intervention by government can hardly resolve in the long run. On the other hand when each party is mindful of the interests of the other and that of the society in general and all agree to make decisions by mutual consultation it is easier to achieve industrial peace. The above merely indicates some possibilities of this kind. The role of information and the impact of public opinion may also be brought into focus.

Labor facing industry - organized labor facing organized employers - brings us to the issue of power in economics: who has power and when and to what effect it is exercised, etc. We have to leave out this issue, possibly for a course on labor and industrial relations. Pertinent is it to point out, however, that exercise of economic power in the framework of maximization can only result in conflict which the market is not capable of resolving. Islam deals with the problem at all the three levels possible: Distributing economic power more equitably, constraining maximization and, as a last resort, intervention in the market by the Social Authority. These issues can be briefly touched in this course leaving detailed consideration to a course on labor and industrial relations.

6.1 Profit and Profit-Share

Instead of hiring out his services at contractually fixed wages, an individual is free to expose his services to risk and uncertainty in expectation of a reward (which expectation may or may not come true). If he does so by acquiring money capital or merchandise from another individual (or institution) on the basis of profit-sharing he is better called an entrepreneur whose income we discuss below. But even an unskilled worker can enter into a 'partnership' with another worker, skilled or unskilled, both taking up tasks like earth moving, tailoring, laundering etc., and sharing the net income in agreed proportions. Lawyers, engineers, doctors and other professionals can come together to run a consultancy service, etc., sharing net revenues in agreed proportions. These incomes are different from wages as they are not contractually fixed. They are in the nature of profits and carry with them the risk of loss.

Interest being prohibited in the Islamic economy, both the reward for entrepreneurship and the return to money capital accrue as profits. But there is a significant difference: whereas interest is either positive or zero, profits can be positive, zero or negative. The division of the joint profits of enterprise and capital between the two shares, one going to the entrepreneur and the other to the owner of the capital, is merely contractual. We will characterize the income of the entrepreneur as profits and the return to capital as profit-share, both coming out of the gross profits of joint enterprise. This distinction facilitates analysis, though some times the entrepreneur himself is the owner of the capital, in which case the entire profits accrue to him. More often, however, the entrepreneur obtains money capital from some other individual or institution. The only way he can do so is on the basis of an agreed percentage share of the profits going to the supplier of capital. In case there are neither profits nor losses, the supplier of capital gets back only the capital he supplied i.e., the profit-share is zero. In case there are losses, they are borne by the supplier of capital and deducted from the capital before it is returned. The profit-share in this case is negative.³

Having explained the nature of profits and profit-shares we can discuss how they are determined. The joint return to capital and enterprise - the gross profits out of which a share may go to the supplier of capital as profit-share - is the difference between the total revenue and the total cost of a firm. The forces of supply and demand that determine the price of the firm's product and the prices of the productive services and the raw materials it uses, are also the determinants of the return to capital and enterprise. Though this is true at the microeconomic level, the average level of profit in the economy can not be explained without macroeconomic analysis involving the level of income and, in the long run, such factors as the state of technology, and the supply of entrepreneurship. This can be done only at a later stage.

3. Capital borrowed with guarantee of repayment is not entitled to any return. Borrowing would not be a significant source of obtaining invest-able funds in an interest-free economy.

The division of the joint return to capital and enterprise into profits of the entrepreneur and profit-share of the supplier of capital is also effected by the forces of supply and demand. The variables effecting this division in an interest free economy based on profit-sharing are the two contractual ratios of profit-sharing: the one between the depositor and the bank (or any other financial intermediary) and the other between the bank and the entrepreneur. A study of how these ratios are determined will be taken up at a later stage. To complete the picture, this study will have to be coupled with an analysis of the shares market explaining how the rate of return on equity capital outside the banks is determined.

Those familiar with the conventional analysis of return to capital will have missed any mention of the productivity of capital which they are used to as an explanation of the rate of interest. As a matter of fact the value productivity of capital is uncertain and no rational basis exists for regarding it to be positive in all circumstances. Interest is an institutional phenomenon specific to the capitalist economy. It is the institution of interest which gives positive value productivity to money capital invested in productive enterprise. In an interest-free system the return to capital accrues jointly with the reward of enterprise, the two may then be separated from one another on the basis of prior agreement. The resulting return to money capital --- which we call profit-share --- is positive, zero or negative, depending on the actual results of the productive enterprise. If and when the enterprise sustains a loss, profit-share will be negative. The loss will be borne by capital-owner. As regards capital goods, as distinct from money capital, their expected value productivity is reflected in their rentals, as we note below.

7.1 Income from Property: Rent, Rentals and Profit-Shares

One major source of income is property. In so far as property is in the form of money capital, we have seen how it can bring profit-share to its owner if he agrees to expose it to risk and uncertainty. Landed property can earn rent. Rent is the price of the benefits flowing from the use of land for a variety of purposes, including building and cultivation. The rate of rent per acre is determined by the forces of supply and demand. Buildings of all kinds are also capable of earning rent for their owners, their rent being the price of the benefits flowing from them. These too are determined by supply and demand. Machines, equipments, vehicles and other durable goods are also rented, their yields called 'rentals' to distinguish them from the return to land or land and building. These rentals are the prices of the services of these durable goods, determined by supply and demand.

Another way of earning an income through property is to expose it to risk and uncertainty in productive enterprise, on the basis of sharing the profits of enterprise. The owner of cultivable land may enter into an agreement with the farmer, the owner supplying land and seeds and the farmer doing the labor involved in cultivation, both sharing the crop in agreed proportions.

The owner of a vehicle e.g., a taxicab, may enter into an agreement with another person who drives the taxi and both divide the daily fare according to agreed percentage. The cost of maintenance and repair of the vehicle should be borne by the owner of the taxicab. Buildings, machinery and other durables can, in a similar manner, be supplied by their owners to shopkeepers, manufacturers, etc., to participate in the productive process on the condition of sharing the returns. These returns are in the nature of profit-share rather than rent or rentals, but we mention them under income from property whose most common form is rent and rentals.

Money capital, though a form of property, can not be rented as, unlike land and other durable goods, it does not enter the process of production unless converted into goods and services. Rent and rentals are prices of benefits flowing from, or services rendered by, durable goods. They accrue as long as the durable good itself exists and remains capable of offering its services. Should the good be destroyed by accident, or become incapable of offering services for which it is rented, the obligation to pay rent ends and any loss due to damage or destruction is borne by the owner, not the person who rented it. Money capital lent with guaranteed repayment does not belong to this category.

Economists have distinguished between scarcity rent of land and differential rent caused by differences in fertility or location. This useful distinction should be explained. More on the nature of economic rent and its application may follow at later stages.

8.1 Grants

As we have noted above grants play a substantial role in a modern economy. They have to, if the market economy is to play a central role in a goal oriented society which is committed to ensure the fulfillment of basic needs to all human beings. Islam provides for grants in a number of ways. Firstly, there are obligatory intra-family and interfamily grants. Secondly, there is *Zakat*, a certain percentage of wealth taken from the well to do and transferred (in cash or kind) to certain category of people, mostly on the basis of needs. Lastly, if these two types of grants still leave unfulfilled needs, the state is obliged to collect more from those who can afford and ensure need fulfillment to all. In the long run this may not be possible without taking suitable measures for growth and development and adopting distributive policies that direct additional income and wealth towards the poor. We do not propose to go into the details of these provisions in this section. The point that is relevant in the present context is that sufficient income is to be redirected towards those to whom it does not accrue as wages, rents, profits or profit-shares to enable them to fulfill their needs. This would also apply to those whose income from the above sources is not sufficient for need fulfillment.

Guarantee of a minimum level of living through grants, subject to the proviso that grants recipients do strive to their capacity to earn what they can, broadens access to the market and affords greater freedom to all economic agents. Since a minimum of interests are assured, self interest need not lead to policies harmful to the interests of others, nor should competition take destructive forms. Since basic needs are socially ensured, inhumane struggle for survival is unnecessary. Since the burden of supporting the poor is upon the rich, ways to riches that create poverty would be self defeating. However, there is a risk of the beneficiaries of social benefits developing dependency or abusing the system, which would harm them as well as the society. Appropriate measures to minimize the risk have to be taken in the light of the experience of post-world-war-two welfare states in Europe.

9.1 Production: Motives of the Producer

Production in the market economy is carried on for profit. Producers hire productive services and organize production with a view to selling the product at a price higher than cost so that the difference i.e., profits, accrue to them as their incomes. But the conventional assumption of profits being the only motive of the producers and that they try to maximize profits is not acceptable as it leaves out important elements in the situation. Producers are human beings moved by numerous other objectives. Besides having a regard for customs and traditions, they too care about their reputation, their image. They are members of society concerned about social matters besides being concerned about their own incomes. This applies to the contemporary societies too. In the Islamic society individuals are assumed to take the interests of others into consideration. Profits will be one of the motives, but the desire to serve the society by producing something people need, or something that will improve it (in material, moral or aesthetic terms) is also a consideration. In certain circumstances production of essential goods and services, or of goods needed for the defense and security of the society, would be looked upon as a duty. The desire to provide employment may also become a motive in conditions of widespread unemployment. Besides these objectives relating to social interests some individuals may also be motivated by the power and prestige that ownership of a big firm brings with it. There is no escape from multiplicity of objectives in analyzing the behavior of producers even though the list of possible objectives may be open to discussion.

What we have said about the motives of the producer also applies to the motives of the owner of money capital who seeks to earn an income by its use. He seeks a return to capital whether he employs it himself or supplies it to a producer on the basis of profit-sharing. But it is not realistic to assume that profit is his only motive or that he always seeks to maximize profits. The supplier of money capital seeks profits but he is also willing to serve some of the other objectives noted above as he too cares about his fellow human beings and wants to serve the society. He may be looking for environment friendly and ethical investment opportunities. The rate of return on capital

or profit that would satisfy the supplier of money capital or the producer depends on their objectives-mix. A lower expected rate of profit combined with a commonly shared social objective e.g., production of essential goods and services or creation of job opportunities for the unemployed may satisfy a particular supplier of money capital / producer whereas some one else may not move unless a higher rate is expected. Once the producer has obtained the money capital required he will proceed to organize production in such a manner that the expected rate of return is realized along with the realization of the other objectives. This also applies to the case when the producer himself is the owner of the money capital employed. This implies that the expected rate of return on capital would enter into the cost calculations of the producer, a point we consider below.

9.2 Costs of Production and the Law of Diminishing Returns

The process of production generally involves the use of some fixed factors like land, building, machinery etc., and some variable factors like the services of skilled and unskilled labor. It has been observed that "An increase in some varying inputs relative to other fixed inputs will, in a given state of technology, make total output increase; but after a point the extra output resulting from the same addition of extra inputs is likely to become smaller and smaller".⁴ This is the 'law of diminishing returns' to the variable input. It should be explained with the help of some examples. It should be clarified that the law assumes a given state of technology. Improvements in technology and the state of knowledge counteract this tendency as observed throughout human history. But in a given period of time with given technology, an important corollary of this law is the eventually upward sloping variable and average cost curves for a firm. Claims of the 'new economy' defying this 'law' may be mentioned.

It is advisable to introduce equal product curves to derive the upward sloping cost curves. Equal product curves should also be used to explain the idea of returns to scale.

10.1 Financing the Firm and the Cost of Capital

Equal product curves deal with production in physical terms. But the firm needs money capital to acquire the physical factors of production - capital, labor, land etc. Production eventually pays for itself as the products are sold on the market resulting in revenues. But the firm has to incur costs -- money paid out to owners of factors of production during the process of production and before revenue accrues. Money capital is therefore, required for a period of time. The producer can invest his own capital if he owns enough of it, invite equity participation or he can obtain money capital on the

4. Paul A Samuelson and william D. Nordhaus, *Economics*, Twelfth edition, 1985, McGraw Hill Book Co., p. 36.

basis of 'profit-sharing'. Equity capital can be acquired by selling 'shares' in which case share holders have ownership rights (which may or may not give them a say in managing the firm). Money capital can also be acquired from a financial intermediary -- a bank for example -- on the basis of profit-sharing. Suppliers of funds on the basis of profit-sharing do not own the firm, nor do they have a say in the day to day management of the firm. Money capital in an Islamic society may not be forthcoming as 'loans' as lenders are not entitled to any return.

Whether it is owned by the producer himself, or by shareholders, or by a bank, a positive return would be expected on the money capital invested in production. It will not be possible for a firm to survive if this expectation is not fulfilled. A positive rate of return on money capital commensurate with the current market rate of return on common stock and/or profit-sharing funds will, therefore, be used by the entrepreneur as 'cost of (money) capital', so that he is able to meet the expectations of the owners - suppliers of money capital. It is important, however, to distinguish between this element of cost and other elements which are contractually fixed, like wages and rent. The latter have to be paid, whatever the result of the enterprise i.e., whatever the magnitude of the 'revenues'. But the 'expected rate of return on capital' is an accounting device adopted by the firm to enable it to fulfill the expectations of the supplier of money capital and continue in business. It is fully aware that actual payment to the supplier of money capital will be in accordance with the actual results of the enterprise i.e., the actual revenues. There is also another vital difference between 'return to capital' as an item of cost and other items of cost. Return to capital is always determined as a percentage share of the returns to enterprise. Profits for the entrepreneur (the firm) and 'return to capital' are always tied together. Once the 'ratio of profit-sharing' has been agreed upon, even the entrepreneur can not ensure a 'return to capital' independent of the profits of the enterprise.

Two important points follow: Firstly, the right element to introduce in cost accounting would be not a return to capital but an expected rate of profit. Given the ratio of profit-sharing which is predetermined and contractual, the firm will try to earn a rate of profit on capital invested in the firm which will yield a return on money capital that satisfies its suppliers. For example, if the entrepreneur has contracted for giving half of the profit of enterprise to the supplier of capital, and a rate of less than ten percent would not satisfy the supplier of capital, the firm would strive to make a profit of twenty percent. The second point to be noted is that even when it is introduced as an element of cost it would remain a flexible item, whose magnitude can be decreased or increased in the short run. Even in the long run the possibility of changing the ratio of profit-sharing so as to yield a satisfactory return on money capital as expected rate of entrepreneurial profit changes, maintains this flexibility. Should the entrepreneur opt for a strategy which is not likely to yield more than fifteen percent profit, he can still satisfy the supplier of capital by contracting to give two thirds of the profit to the supplier of money capital.

At a later stage we can discuss how the ratio of profit-sharing is so adjusted that it, coupled with the expected rate of entrepreneurial profit, can satisfy the expectation of the supplier of capital regarding the return to capital and the entrepreneur's expectation to earn at least an income equal to his 'alternative earnings'.

According to the conventional analysis of the firm, the need for working capital required to purchase raw material and pay wages, salaries and rents is met by borrowed funds. Interest paid at the market rate becomes a part of the variable cost of the firm. The average cost curve also includes a reward for the services of the entrepreneur just sufficient to make him stay in the industry, which is defined as equal to his alternative earnings should he opt to sell (i.e., hire out) his services on the labor market. Given the maximization of profit assumption the equilibrium point is indicated by the intersection of the marginal cost curve with the marginal revenue curve where, in perfect competition, it is tangent to the average total cost curve at its minimum and the 'shut down' point is indicated by the intersection of the marginal cost curve with the marginal revenue curve where, in perfect competition, it is tangent to the average variable cost curve at its minimum. This leaves no room for maneuverability by the firm in a competitive situation even in the short run. But the situation changes if the firm is operating with working capital obtained on the basis of profit-sharing instead of interest based borrowing. The latter situation calls for a distinction between variable costs that include the expected rate of profits and variable costs that do not include it. The return to capital obtained on the basis of profit-sharing has to come out of profits. It is not a contractually determined item of cost. It is plain to see that the gap between the two variable cost curves affords a degree of maneuverability in the short run in the profit-sharing situation which does not obtain in the interest based situation, both with respect to the equilibrium point and the shut down point. But, in the very long run this difference disappears as those supplying capital on profit-sharing basis have to get the return they expected.

This difference in the notion of cost of capital has its implications for the use of equal product curves for studying the employment of capital relative to labor, or of capital relative to land in the process of production. Suppose, land is assumed to be constant, capital and labor are shown on the x and y axis respectively, and equal product curves are drawn indicating various possible combinations of labor and capital to produce a given quantity of the product. A price line is now drawn whose slope shows the relative price of labor and capital. The point of tangency of this line with the equal product curve relating to the desired level of production indicates the least cost combination of labor and capital for the production of that output. It may be noted that capital in this context means fixed capital: machinery and equipment etc. The right price of capital in this context should be rentals and not the rate of interest. But conventional analysis uses the market rate of interest as price of fixed capital as the two, rentals and rate of interest, must be equal in a competitive market. Now notice that it is not necessarily so in the profit-sharing situation. There will be no rate of interest in such a situation. There will be an expected rate of return on money capital supplied on a profit-

sharing basis but it is not a contractually fixed category with which rentals of physical capital could be equated. The rate of rentals of physical capital may move closely with the expected rate of return on money capital on the market but the category to be employed in the above mentioned diagrammatic analysis is the contractually fixed rate of rentals and not the non contractual expected rate of profit-share. It may, however, be noted that this too is a short term distinction. In the longest run the expected rate of return on money capital and the rate of rentals on durable goods would tend to the equal.

Let us now consider the case of concerned producer who, in a situation of widespread unemployment, wants to create more jobs for labor. This will involve a departure from the least cost combination of labor and capital indicated by the point of tangency of the price line with the appropriate equal product curve in the above example. Selection of a point to the right of this point will involve higher costs per unit of output. This is out of question in the conventional model of a competitive market as no individual firm can survive if it opts for such policy. In the profit-sharing model, it is possible for the individual firm to do so in the short run and on a limited scale because of the possibility of maneuverability noted above i.e., because of the difference between the variable cost curve that includes the expected rate of profit and the one that does not. To be possible on a more durable basis the policy will have to be generally adopted by all firms in the industry. As noted above another way of creating more jobs is for labor to accept a lower wage rate, so that the slope of the price line changes and the new point of tangency is to the right of the old point, involving additional employment of labor. This involves mutual consultations between producers and labor.

11.1 Equilibrium of the Firm and the Industry

The marginal revenue and marginal cost curves can be employed to determine the equilibrium output of firm as long as the objectives of the firm are clearly defined and can be quantified, as demonstrated above. Equilibrium of the firm is a useful concept although actual firms may always be in disequilibrium responding to changes in market conditions. The same applies to the concept of equilibrium of the industry.

Given the demand curve for a product we need the supply curve of the product to arrive at the equilibrium price of the product. This can be obtained by the horizontal summation of the individual firms' marginal cost curves from the shut down point upwards. In the first instance it is the 'full cost' curve including the expected rate of profits that is relevant. The marginal revenue curve for an individual firm is a horizontal line drawn at the price determined by the intersection of the demand and supply curve at the industry level. The number of firms in the industry will so adjust itself that, assuming identical cost curves, each firm is just able to meet its average unit costs (i.e., $mr = mc = ac$). The process of adjustment can easily be explained with the help of diagrams along conventional lines.

Let us now assume that some firms or all firms decide to supply more of the product sacrificing part of the profits (included in their cost curves). The new supply curve will be to the right of the old supply curve implying a larger output and a lower price. The number of firms in the industry need not be affected, and each firm may still be producing at the most efficient scale of production (i.e., corresponding to the point of tangency between the horizontal revenue curve and the bottom of the U shaped average cost curve).

In a similar manner consequences of other policies on part of some or all firms in the industry may be traced with the help of the revenue and cost curves as long as these policies are quantifiable. There may be social issues calling for mutual consultation between producers, between producers and consumers and/or between producers and labor. Though not mandatory, some or all may respond to the call. As long as the policy options are quantifiable their consequences can be traced with the help of this technique.

The above analysis assumes large number of buyers and sellers and a homogeneous product. Departures from these conditions are analyzed by the conventional theories of monopoly, oligopoly and monopolistic competition. These analyses are all conducted on the assumption of maximization of profit by the firm. Relaxing this assumption to admit other objectives, the distinction between the cost curves that include expected profits and those which do not can be utilized to trace the consequences.

12.1 Consumption: Consumer Behavior and Hierarchy in Human Needs

Given purchasing power and facing a market with goods and services available at specific prices, how does the consumer decide what to purchase and how much of it to purchase? Even though free to choose, it is reasonable to assume that the consumer will first try to satisfy his basic needs for food, clothing, shelter, medical care, education, transportation etc. He will try to fulfill these needs for himself as well as his family and other dependents, if any. The quality and quantity of these purchases is determined, over a period of time, by habit and customary level of living (which in its turn is determined by the individual's level of income relative to prices of the goods concerned and by the social norms). They are not very responsive to minor changes in price. Nevertheless the conventional theory of substitution is useful within the scope of any particular need. A consumer may substitute one food item for another or one clothing for other in response to price changes. But the same may not apply between two different needs e.g., the need for food and the need for shelter, as a minimum of each is necessary for survival.

As the consumer moves from the items satisfying basic needs to those satisfying other less urgent needs social and psychological factors gain in importance in the choice of goods and services and the amounts purchased. Price changes do affect his decisions

but it is not always certain in which direction and to what extent. Commodities in this group generally satisfy more than one need e.g., a car is a status symbol as well as a means of transportation. A rise in the price of a certain model of a car may increase its desirability as a status symbol whereas cheaper substitutes may be available as means of transport.

12.2 Utility Analysis of Consumer Behavior

Though the conventional technique of focusing on changes at the margin is helpful and the idea of substitution can be retained for commodities satisfying basic needs, generalized use of the utility analysis (including its indifference curves version) is problematic. It fails to take hierarchy of needs into consideration and ignores factors other than price changes influencing choice. Nevertheless the notions of price elasticity of demand and income elasticity of demand are useful and helpful in analysis.

The indifference curves technique should be explained to the students subject to the qualification that its use be limited to studying the consumer's choice between goods and services satisfying similar needs such as those for food or those for shelter. They can not be used to study the choice of the appropriate combination of goods and services satisfying different needs such as food and shelter or social prestige and efficiency, etc., because the notion of marginal rate of substitution is not valid in that context. Specific factors have to be considered in each case and no generalizations seem possible.

The assumption that the consumer seeks to maximize utility or satisfaction implies that all goods and services have a common denominator called utility or satisfaction which can be measured or at least compared with one another. The idea is not convincing in view of the hierarchy of human needs and the fact that the same commodity may serve a number of needs. This makes a generalized analysis of consumer's equilibrium difficult.

12.3 Consumer Behavior and Altruism

In the Islamic perspective there is a need for introducing the assumption that, side by side with their keen desire to meet their own needs, consumers do care for others in the society. They are especially concerned about those whose basic needs are not being fulfilled. They are also concerned about the interests of the society as a whole e.g., about the environment, conservation of scarce resources, level of employment, balance of payments, capital formation, etc., subject to availability of relevant information. These concerns may influence their choice of goods and services, their quantities, as also their response to changes in prices. In certain cases factors other than price may predominate in the choice as in case of essential goods in short supply, imported items

of consumption in case the society appeals for economizing on imports, goods and services whose consumption is being discouraged or encouraged because of environmental considerations, etc. The point we wish to make is that individual demand for something may increase or decrease because of these social considerations. In cases where these considerations are operative, a study of consumer demand should take these into account.

13.1 Epilogue

Throughout this analysis we have tried to be realistic, taking into consideration factors generally neglected. Economic agents: consumers, producers, laborers, etc., are assumed to care for others and take the interest of the society into consideration while trying to serve their own interests by earning as much as possible. Everyone is supposed to be conscious of the goals of the economy and respectful towards the institutional arrangements in an Islamic society. This is how it should be /would be in an Islamic society, but it also approximates more closely to the existing reality in the Muslim countries as compared to the picture emerging from the conventional theory based on single minded pursuit of self interest by all economic agents without any conscious regard for the goals of the economy. This analysis is, therefore, expected to be more helpful in understanding economic life as it is and in the effort to transform it in accordance with the teachings of Islam. It may not be as elegant and rigorous as conventional analysis but the loss is more than compensated by the gain in realism and relevance. It should also pay attention to cooperation that might occur in the market and the mutual consultation that might be needed. Though the state is not brought into the model explicitly, there are several pointers to a need for its participation in the process. As we proceed to discuss macroeconomics in a similar vein, there will be occasion to bring in the state as an active participant.

PART II

MACROECONOMICS

Macroeconomics

1.1 The Perspective

In the chapter entitled microeconomics we have dealt with individual agents: the consumer, the producer (the firm), etc. Our focus has been the determination of prices of individual goods and services, the rate of wages, rent per acre, etc. This in itself does not provide a complete picture of the economy nor does it suffice for understanding the functioning of the economic system. Macroeconomics, which is the area we cover in this chapter focuses on such aggregate quantities as the total income of a country (national income), the volumes of employment, savings and investment, etc. It deals with aggregates relating to the whole of the economy. Price level in general, as distinguished from relative prices, is of central importance in macroeconomics. This brings in money, its supply (quantity of money) and the demand for money. Also important is credit, as distinct from money. In an interest based system, the rate of interest too is one of the most important macroeconomic variables. In a profit-sharing system the average rate of profit expected at any time assumes a similar though not identical role. The ratio in which profits are shared between the owners of funds and their users is a new variable of considerable importance in this system. Money and credit play a marginal role in microeconomic analysis that is mostly conducted in real terms. But money and credit have central importance in macroeconomic analysis as their very existence affects the other key macroeconomic variables like the level of employment and output. The nature and role of money and credit is, therefore, a major subject of study in macroeconomics. One of the forms credit takes in an interest-free Islamic economy is *murabaha*—sale on deferred payment of assets desired by a client on a price higher than the purchase price. The price difference is called mark-up and can be expressed as a percentage of the purchase price, the rate of mark-up.

Macroeconomics also addresses itself to the distribution of the total income of society between wages, profits and rents. Classical economics gave much importance to this distribution as back then it corresponded to the incomes of the three social classes: workers, capitalists and landlords. The structure of a modern economy, especially in advanced countries, defies such a division. Many workers earn profits through the stock they own and a large class of professionals is sometime able to earn 'rent'.

Since most actions of the government impinge upon aggregate quantities like supply of money and credit, level of taxes, subsidies and grants, they are also studied in the context of macroeconomics. Thus, both monetary and fiscal policies belong to this area.

Macroeconomics is not, however, something divorced from and independent of microeconomics. Most of the tools and concepts developed in microeconomic analysis remain the key tools and concepts in macroeconomics, to be supplemented by new ones

to make further progress in understanding possible. Supply and demand, the concepts of equilibrium and the maximization hypothesis play key role in macroeconomic analysis. The concepts of full employment and growth and tools such as the multiplier and the Phillips curve are, however, unique to macroeconomics.

The points relating to methodology in the previous chapter remain relevant for this chapter also. In fact our brief discussion on the goals of the Islamic economy and the institutional arrangements therein assumes a much larger significance for this chapter which has to address itself to several policy issues involving the role of the state. At the analytical level the single most important element which would distinguish our analysis from modern economic analysis is the absence of interest from the Islamic economy. How does the absence of this institution from the economy affect man's attitude towards money and credit, and their role in the system? Since both the demand for and supply of money and credit are related to changes in the rate of interest, a study of the demand and supply of money and credit in the absence of interest is of prime importance in Islamic economics.

Interest plays an important role in savings and investment decisions. It is a variable linking a financial market to a real market. How the two markets are linked in the absence of interest, as well as the determinants of savings and investment decisions in an interest free profit-sharing system are, therefore, major subjects of study in economics with Islamic perspective. The practice of *murabaha* and other trade-based modes of finance in an otherwise interest-free system adds the rate of mark-up to the list of variables to be studied. Also important is the study of the interrelationship between the three variables—rate of profit, rate of interest and rate of mark-up—in the real world economies of the day where Islamic finance may be in practice in an otherwise interest-based system.

Credit⁵ differs from money in important respects. Firstly, money is homogeneous while credit differs in quality from borrower to borrower. Secondly, it is easier for the Social Authority to regulate the supply of money than to influence the supply of credit. Thirdly, the supply of credit involves information processing, irrespective of the terms on which the supply takes place. It also involves risk bearing by the supplier. The three alternatives: interest bearing loan, *murabaha* and supplying funds on profit-sharing basis need to be compared with one another on these bases: information costs, degrees of risk and amenability to regulation.

5. Reference may be made to Stiglitz, Joseph E. and Bruce Greenwald, *Towards a New Paradigm in Monetary Economics*, Cambridge University Press, 2003.

2.1 Macroeconomic Variables

It is advisable to familiarize the student with the basic variables which will occur again and again in subsequent discussion. These are listed below, which should be defined along familiar lines (following any standard text book on macroeconomics). The teacher should also describe how their values are computed. At the end of the list are some "qualitative" variables, important for the behavior of a Muslim economic agent but hard to quantify. Their meaning will become clear as we proceed. Also new is the rate of mark-up briefly defined above.

- Y National Income, or real output of a country during a year. Briefly distinguish between real income and money income, gross income and net income, total income and disposable income, etc.
- C Consumption, referring to total annual consumption unless otherwise specified.
- I Investment, distinguish between gross and net investment.
- S Savings, referring to total annual savings unless otherwise specified.
- E This is a new variable not noticed in conventional analysis. It stands for total annual expenditure in the cause of Allah or social expenditure.
- N Employment, standing for the total labor employed.
- P Price level.
- M^S Total money supply.
- M^D Total money demand.
- ? Average rate of profit.
- w Average rate of wages.
- ? Minimum level of consumption for an individual
- f Ratio of profit sharing
- u Rate of mark-up
- r Rate of interest
- m Moderation principle
- ? Social goals of investment
- ? Social objectives of employers
- ? Social considerations before laborers

3.1 Money

Instead of starting with the theory of income determination I prefer starting a course in macroeconomics in Islamic perspective with money and banking. The reasons are two: First, money and credit and their demand and supply play a crucial role in the determination of other macroeconomic variables. It is necessary for a beginner to have a clear idea of what money and credit do and how their management affects key macroeconomic variables. Second, and the more important reason, it is this subject that provides the point of departure for analysis in Islamic perspective. The way money and

credit may be managed in an interest free Islamic economy may change the course of economic events. It is, therefore, advisable to note the unique institutional arrangements in an Islamic system and trace their consequences before the theory of income determination is discussed.

Money is something generally acceptable in exchange for everything, so that it serves as a medium of exchange. To be able to do so, it has to serve as a store of value between transactions. Money also serves as unit of account or a measure of value. Since money is a store of value as well as a measure of value, it serves as a means for deferred payments, debts being made and repaid in terms of money. Money performs these functions by social convention backed by legal sanction. A brief reference may be made to the emergence of money out of society's experience with barter and its inefficiency.

The various forms of money in modern economy should be briefly described: coins, currency notes and demand deposits. Deposits subject to checking and withdrawal on demand are money as they perform the functions of money noted above. Beyond these we have a range of 'near' monies capable of performing the above functions in various degrees. It is claimed bonds issued by governments like that of United States of America are nearest money substitutes. Mutual funds and other financial institutions which hold a large quantity of high quality bonds may also be able to supply credit to businesses effectively competing with banks. They are some times offering withdrawal-facility to their clients-depositors. With credit performing many functions of money but not amenable to regulation through quantitative measures like reserve requirements, modern financial markets have become far too complex to be amenable to simple quantitative control and analysis.

The efficiency of money in performing its functions depends on the stability in its value i.e., purchasing power of money. This depends on the demand for money and its supply.

3.2 Demand for Money

Money is held for making transactions. As we have noted above, credit does the same, especially for business. Consumers hold cash to make purchases and pay their bills. Business men have to pay wages and buy raw materials, etc. The other main reason for holding cash is precautionary. The future is uncertain. Contingencies may arise in which cash is needed.

By holding cash a wealth owner forgoes, to that extent, the alternative of holding another asset which could yield an income over time. In an interest free Islamic economy such assets range from shares and investment accounts with Islamic banks to physical assets like real estate or machines and equipments which could yield rents or rentals. In other words, holding cash has a cost which equals the expected return on

alternative financial or physical assets. A wealth owner incurs this cost in view of the convenience and security that holding money for transactions and precautionary purposes affords him. But a wealth owner's demand for money is likely to be responsive to changes in the expected rate of return on alternative assets. As this rate rises a wealth owner will economize in the use of the money for these purposes and *vice versa*. The demand for money to hold can be regarded as an inverse function of the expected rate of return on income yielding assets.

Keynes recognized speculative demand for money in a simple world where the alternative to holding cash was to hold bonds. Demand for money to hold was directly related to bond prices (i.e. inversely related to the rate of interest). In the more realistic world where a wealth owner is faced with a multiplicity of income yielding assets which also differ in the ease with which they can be converted into cash, a separate recognition of speculative motive is not needed.⁶

As the expected rates of return from deposits in investment accounts, shares of different companies, and different physical assets change, wealth owners will move from one asset to another. Such movements may involve, temporarily, some holding of cash over and above the cash held for transactions and precautionary purposes, like a person who sells shares of company 'A' to buy shares of company 'B'. These temporary holdings do not indicate any change in behavior causing a change in the demand for money. These temporary holdings can be assumed away for sake of simplicity, as if the sale of company 'A's share and purchase of company 'B's share in the above example were simultaneous.

The degree of responsiveness of the demand for money to changes in the expected rate of return on income yielding assets in an interest free economy is a matter for empirical research. What can be argued at the theoretical level is that the demand for money curve will have a negative slope, less cash being held at higher expected rates of return and *vice versa*. The distance of the curve from the Y axis will depend also on the level of income, more cash being held at every expected rate of return at higher levels of income and *vice versa*. The curve will never touch the Y axis, however high the rate of return may rise, for any positive level of income. It will also never touch the X axis, assuming there will always be some assets with a positive expected rate of return. There is no reason either for the demand for money curve ever to become parallel to the X axis (showing the quantity of money demanded) however low the expected rate of return may be. Given the level of income, there is a limit to the convenience afforded by cash

6. Reference may be made to the treatment of this issue by Baumol (W.J. Baumol, 'The Transactions Demand for Cash: An Inventory Approach', *Quarterly Journal of Economics*, Nov. 1952) and Tobin (J. Tobin, 'Liquidity Preference and Behaviour Towards Risk', *Review of Economic Studies*, Feb. 1958). Their analysis can be adapted to an interest free world in which income yielding assets carry different expected rates of return in association with varying degrees of ease in convertibility to cash and various degrees of risk. But the analysis need to be updated to incorporate the insights offered by Stiglitz and Greenwald. (See the previous footnote)

held for transactions so that any positive rate of return may make holding of income yielding assets more attractive than holding cash, once those limits are reached.

The speculative demand for money which Keynes related to the rate of interest is not relevant to an interest free economy because of the difference in the nature of expectations relating to the rate of return on shares, investment accounts and the like. These expectations will reflect real productivity and are not likely to be 'self justifying' as they are in case of bond prices and the rate of interest. Suppose economic conditions are taking a turn for the better generating expectations for a higher rate of profit. This, according to our model, will cause a decline in the demand for money to hold as people economize in the use of money for transactions and precautionary purposes. Should a higher rate of profit actually obtain, will it necessarily generate expectations of a decline in the rate of profit? There is no reason why it should, as long as the objective conditions of the economy do not change for the worse. In other words, expectations relating to the rate of return on investments in an interest free economy are based on real factors. Changes in course of these expectations will reflect changes in real conditions rather than the changes in the subjective feelings of the wealth owners.

3.3 Supply of Money

A discussion on the supply of money requires that the model of interest-free banking be described in comparison with conventional western banking, a task the teacher can easily do as a sizeable literature is available on the subject. A brief expose is, however, given below. The point which should emerge very clearly from this discussion is that creation of money in an interest free Islamic economy will be by way of investment and, therefore, firmly linked with increase in the supply of goods and services whereas creation of money in the interest based system is by way of lending and therefore not linked firmly with increase in real production.

4.1 Interest-Free Islamic Banking

Banking companies may be formed on the basis of *shirkah* (partnership). Deposits will be accepted from the public in current accounts payable on demand. These deposits will be in the nature of loans to banks whose repayment is guaranteed to the depositors, hence they will not be entitled to any dividend. Deposits will also be invited into 'investment' accounts on the basis of *mudarabah* (profit-sharing). These deposits will carry a promise of an agreed percentage share out of the profits accruing to the pool of such deposits as a result of their investment by banks. These deposits will be liable to any losses attending such investment. Banks' main business will be supply of funds to businessmen on the basis of profit-sharing. They may also enter into partnership with businessmen, actually participating in management. They may also buy and lease physical assets earning rents and rentals. Another profitable business which dominates

the practice of Islamic banking at present is *murabaha*, i.e. buying goods ordered by a client and selling them to the client with a profit, price to be paid by the client later, on an installment basis. Islamic banks will also keep safe deposits, transfer money, act as agents and provide other customary banking services for a fee, subject to the provision that interest is not involved.

There will be a central bank with the power to create money and control its supply. Additions to supply of money by the central bank will take place in the form of supply of investible funds to the government for public sector enterprises or to the commercial banks to be supplied by them to business. It may take a number of forms, purchase of shares in public sector enterprises being one of them. Another form may be creation of central deposits, the central bank opening investment accounts in the commercial banks which will invest deposits in the real sector.

Most of Islamic economists visualize a fractional reserve system so that operations of the commercial banks will also result in creation of new money. Some of them argue in favor of a 100 per cent reserve system in which only the central bank could create new money. It will do so in accordance with the expansion in production, i.e., growth of real output. Commercial banks under a fractional reserve system will supply funds for financing projects they as well as their business partners expect to be productive. Should this expectation fail to come true money returned to the bank will have diminished by the amount of the loss incurred. Linkage of additions to supply of money, via profit-sharing investment, to additions to supply of goods and services ensures that money supply is linked to real output. There is no fundamental change when *murabaha* (bank buying something ordered by a client and selling it with profit on deferred payment) is introduced into the model. Financing production by money created in the process of lending fails to ensure this correspondence as repayment of loan as well as return in form of interest are de-linked from actual output. Interest free loans would play a minor role in the Islamic system. The huge amounts of outstanding debts as well as the ease with which they are monetized will not be possible in this system. It may be noted that debts arising from *murabaha* and other trade based modes of finance do not share the characteristics of interest-bearing debts.⁷ The teacher should elaborate upon this point by describing conventional banking as well as Islamic banking in detail.

This should be followed by a brief discussion on financial intermediaries other than banks in the contemporary interest based system and in the Islamic interest free system as visualized by its theorists.

Assuming that the Monetary Authority will expand the supply of money in correspondence with the growth of real output, the supply of money M^S , would be a function of the level of income, Y and the price level, P . The demand for money,

7. See the author's, *Riba, Bank Interest and the Rationale of its Prohibition*, Jeddah, Islamic Research and Training Institute, Islamic Development Bank, 2004, pp.72-77.

M^D will be a function of the level of income and the expected average rate of profit in the economy ?.

$$M^S = (Y, P)$$

$$M^D = (Y, ?)$$

5.1 Spending

Income recipients generally spend the major part of their current income on consumption. In the Islamic society income recipients are also assumed to care for others, spending part of their income on fellow human beings in form of gifts, grants and contributions to social institutions including the state. What remains after consumption expenditure C is split between expenditure on others E and saving S . Savings are denoted as S , so that

$$Y = C + S + E$$

5.2 Consumption Function

There is a minimum expenditure on consumption which must be made in order to survive. It is an Islamic duty of every individual to fulfill his basic needs in order to survive with efficiency, as it is a duty of the society to help individuals who can not do so on their own. We assume, therefore, that consumption never falls below a certain minimum ? necessary for survival.

Then there are a number of factors influencing the decision on how much to consume. But the one single factor which exercises the greatest influence, in the short run, is income. This point should be explained in some detail.

For a Muslim there are certain constraints on consumption. Besides alcohol, pork, etc., whose consumption is totally prohibited, there are strong injunctions against indulgence in luxury, waste and extravagance in consumption. Islamically oriented consumers are expected to exercise moderation in their expenditure on consumption. In order to quantify this notion we introduce the symbol m (for moderation) as an argument in the consumption function. Consumers who tend to spend more than the average level of consumption in the community would feel uneasy about doing so, the larger the gap, the greater the uneasiness making them reduce their consumption in the next period. It is now possible to formulate the consumption function as

$$C = ? + f(y, m)$$

which is arrived at by aggregating the individual consumption functions whose elements have been explained above.

5.3 Savings

Income can be regarded as the major determinant of the amount saved by an individual, as most of the other factors influencing this decision are long term in nature and relate to such stable factors as habits, desire to provide for the future and to leave something for the children to inherit. These other motives for savings should be explained. Another important motive for savings is the desire to earn an income by investing the savings. This implies that the expected rate of profit, r , be included in the determinants along with the level of income, Y , so that

$$S = f(Y, r)$$

It is advisable to give some thought to what a saver is likely to do with his savings in an interest free Islamic economy, in order better to grasp the close link between the decision to save and the decision to invest in that economy. The saver has three options:

- i) He can buy physical assets capable of yielding a rent or rental. Here the saver becomes an investor. This option may be preferred because of psychological satisfaction ownership of physical assets might give, or because of higher expectations on returns and capital gains. These are, naturally, to be weighed against risk and management costs involved.
- ii) He buys shares, other financial assets, or makes a deposit in 'investment accounts' of Islamic banks. In this case, he is financing investment, the real decisions on how much to invest and where, are being taken by the corporations whose shares or financial assets are involved or the firms which obtain profit-sharing funds from Islamic banks. One may prefer this alternative because of convenience, smaller risk, easier convertibility into cash or, may be, differentials in returns as compared to the first alternative.
- iii) He may keep his savings in cash (in hand or in demand deposits). This alternative may be preferred because of risk aversion or a strong precautionary motive.

In actual practice wealth owners may opt for a portfolio comprising all the three forms of keeping savings: physical assets, financial assets and cash. The division of total savings among these components may be influenced by the factors noted above.

5.4 Expenditure in the Cause of Allah (Social Expenditure)

A number of factors may influence one's decision on how much to spend in the cause of Allah. The level of moral and spiritual consciousness and the degree of social need on account of poverty and requirements of other goals of the society are the most

prominent amongst them. Custom, tradition and peer pressure also come into play. Some of these are long term factors. But others are not, and social need may undergo sudden changes that impact decision even in the short run.

Islamic economic literature on consumption function is still grappling with this issue of analyzing spending in the cause of Allah- socially oriented expenditure. It is nevertheless desirable to take note of the elements which may impact the composition of consumer demand more than its magnitude. Hence it may be more significant for income distribution than income determination.

6.1 Investment

The teacher should explain the meaning of investment as in any standard text book and point out that decisions on how much to invest, where and in what line of production, are generally taken by those who organize production -- the entrepreneurs. In the first instance these decisions may be taken independently of the supplier of capital but ultimately they have to be subjected to review by the financier, especially so in a profit-sharing interest free system where production is not financed by loans. Even in *murabaha* financing the financier must take into consideration the chances of bankruptcy of the firm being financed. The final decisions have to have the concurrence of the financier as well as the firm. Out of the many factors influencing this decision the expected rate of profit may be considered the single most important factor. Other things remaining the same, both entrepreneurs and financiers may be inclined to invest more at higher expected rates of profit and *vice versa*.

This does not mean that we are assuming the financier as well as the producer to be mere profit-maximizers. As discussed in the previous chapter, Islamic behavior implies taking into consideration the interest of the consumers, labor, other producers and society in general. Investment decisions in an Islamic economy will also be guided by social priorities indicated by the state or expressed through public opinion. It will also be guided by the decision makers' own individual or collective views on what is in the best interest of the society, especially relating to employment, supply of goods and services catering to basic needs, defense, etc. We sum up these considerations in the symbol θ , so that it becomes an argument in the investment function.

Lastly, investment is also a function of the level of income, a point which the teacher can elaborate in the light of standard text book arguments. The investment function can now be stated as

$$I = f(Y, \theta, ?)$$

7.1 Income Determination

Equilibrium in the product market requires that

$$S = I$$

Whereas equilibrium in the money market requires that

$$M^D = M^S$$

Given the social priorities ϕ the equilibrium level of income and the rate of profit are determined simultaneously by savings, investment, demand for money and its supply. The analysis is conducted in real terms so that the price level is held constant. It is possible to take changes in the price level into consideration by dividing the money supply M^S by the price level P so that

$$M^D = \frac{M^S}{P}$$

While discussing income determination, the teacher should introduce the concept of average and marginal propensities to consume and the average and marginal propensities to save. The concept of multiplier and its role in the theory of income determination should also be explained along conventional lines.

8.1 The Average Rate of Profit

Some clarification is needed about the average rate of profit in the economy as a whole, indicated by ϕ in the discussion so far. Actually there are a number of profit rates involved. Three deserve special notice. But let us first simplify matters by assuming that *all* investment takes place through intermediaries (Islamic banks) on a profit-sharing basis. There is a rate of profit which accrues to the saver who deposits money in banks' 'investment accounts', there is the rate of profit which accrues to the banks (before the depositors' share is distributed) and lastly, there is the rate of profit accruing to the ultimate investor, the producer who actually uses these funds. For sake of simplicity we assume that banks share this entrepreneurial profit in the ratio f and the depositors also share banks' profit in the same ratio. In other words depositors' ratio of profit sharing (drp) equals bankers' ratio of profit sharing (brp) and $drp = brp = f$ where $f < 1$. If the rate of profit accruing to business enterprise is p , banks' rate of profit (before taking out depositors' share) is $f \cdot p$ and depositors' rate of profit is $f^2 \cdot p$. The average rate of profit on investment in the economy as a whole, ϕ , which we have been talking about refers to this rate, i.e., $\phi = f^2 \cdot p$. As long as f does not change, it is valid to use ϕ in the functions for demand for money, savings and investment noted above as all these rates are

interrelated. At a later stage, π can be distinguished from p and possibilities of a change in f can be discussed as the context requires.

It may also be noted that π in the above functions refers to the expected value and not the realized value. The realized value comes into picture in equilibrium i.e., when π and Y are determined by the simultaneous equilibrium in the money market and the product market.

In order to avoid confusion later it should be noted that after profit sharing is effected the rates of profit actually realized by the savers, the intermediary (bank) and the entrepreneur are $f^2 p$, $f(1-f)p$ and $(1-f)p$ respectively: ($f < 1$). It is, therefore, the expected value of these rates which these economic agents will seek to maximize, other things remaining the same. Translated in terms of π these values are π , $\pi/f - \pi$ and π/f^2 and $\pi/f^2 - \pi/f$ respectively [or π , $\pi(I/f - 1)$ and $\pi(I/f^2 - I/f)$].

It is recommended that after explaining the determination of π and Y by the simultaneous equilibrium between the money market and the product market in an interest free Islamic economy, the teacher should also explain to the student the IS, LM curves analysis in the context of interest based system, leading to the determination of equilibrium levels of Y and r , the rate of interest. Points of similarity as well as difference between the two approaches should be indicated.

It is at this stage in analysis that we bring in the rate of mark-up in *murabaha*-financed investments. What determines this rate? The rate of mark-up on spot prices would be determined in the same market in which the cash prices are determined, i.e. in the real market. The forces of supply and demand for real assets that determine their spot prices cannot be irrelevant in the determination of their deferred prices. Unfortunately no empirical data are available to proceed further with this hypothesis.

9.1 Equilibrium in the Labor Market

The above analysis of income determination takes productive capacity for granted so that as demand increases output can be increased. Though this Keynesian insight is simple and useful in dealing with some situations in the developed countries, it is not very helpful in dealing with developing countries where capital shortage and bottlenecks in supply are the main hurdles to expansion in production. Even in the developed countries new situations arise which call for a closer look at the supply side. In order to prepare ourselves for this we have first to consider the labor market. To simplify matters we take the production function as given and also assume a given stock of capital, K . At this stage the teacher should explain the concept of production function and its uses in economic theory. He should also explain the difference between the *stock* of capital and investment which is a *flow* concept.

Real output Y is a function of employment N , given the stock of capital, K

$$Y = f(N, K) \quad \text{the production function.}$$

N , the level of employment is determined in the labor market by the equilibrium between demand and supply of labor.

As noted in the previous chapter we recognize the key role of marginal productivity of labor in the demand for labor function. But economic agents do not seek to maximize their economic advantages only (e.g., profits or earnings), they also care for social goals. We hinted at some of these earlier. Postponing a more detailed discussion for a later stage we merely introduce an argument θ in the demand for labor function which sums up everything other than money that the demander cares for. Similarly we introduce an argument θ' in the supply of labor function which sums up everything other than money that the supplier of labor cares for.

Since marginal productivity of labor depends on the level of employment, given K , we have

$$\begin{aligned} w &= f(N, \theta) \text{ demand for labor function} \\ w &= g(N, \theta') \text{ the supply of labor function} \end{aligned}$$

w in the above equations stands for real wages rate, so that $w = W/P$, the money wage rate W divided by the price level P .

$$\begin{aligned} \text{Hence, } W &= P \cdot f(N, \theta) \\ W &= P \cdot g(N, \theta') \end{aligned}$$

Equilibrium in the labor market requires that

$$F(N, \theta) = g(N, \theta')$$

which gives us the equilibrium values of w , and N given θ and θ' , and the equilibrium value of W given P .

The teacher will explain how the aggregate demand and supply curves for labor are arrived at by a process of summation of the respective curves at the firm and then at the industry level.

10.1 The Aggregate Supply Curve

The above gives us equilibrium employment N depending on the price level P . By varying the price level we can see how equilibrium employment will vary. Then, with

the help of the production function we can determine the variation in equilibrium output supplied as the price level changes. This gives us the economy's aggregate supply curve.

This aggregate supply curve can be confronted with the aggregate demand curve, their interaction indicating the simultaneous determination of output and price level. One way to do so is to assume successive changes in investment leading to changes in equilibrium level of Y on the demand side of the economy involving both the money market and the product market. Another way to construct the demand curve is to bring $C+E+I$ so that $C+E+I = Y = C+E+S$

where $I = S$ in equilibrium

11.1 Fiscal Policy and the Role of the Government

The government spends on consumer goods and investment. It takes away part of the society's income as taxes. Sometimes it raises loans which have to be repaid. Government expenditure, taxation and borrowing become tools of fiscal policy to be studied in the context of certain policy objectives.

In the Islamic economy we can identify four major objectives of fiscal policy: Need fulfillment, economic development, reducing inequality in the distribution of income and wealth and economic stability. The nature and significance of these policy objectives and their importance in the context of the *maqasid al Shariah* (objectives of Islamic law) should be briefly explained.

How the three policy instruments: spending, taxation and borrowing can serve these objectives? The teacher should elaborate upon this point drawing upon the literature available on the subject both in conventional text books as well as in the writings of Islamic economists. Some important points are noted below.

Need fulfillment can be served directly by effecting transfer payments to the needy, free supply of certain goods and services, subsidy to producers of certain goods and services etc.

Reduction in the inequality of wealth and income distribution can be achieved by transferring part of the wealth and income of the rich to the poor, diverting part of the current income to the poor, increasing the earning capacity of the poor through education and training and by supplying them with tools of trade, equipment etc.

Economic development can be promoted by building the necessary infrastructure through public sector investment, public sector projects for production of goods and services crucial for economic development, better exploitation of natural resources and

fuller utilization of manpower resources by providing incentives to private enterprise and direct participation of the public sector, etc.

Economic fluctuations can be minimized and stability can be ensured by suitable timing of public spending and using taxation, borrowing and repayment of loans as means of injecting purchasing power into the system or withdrawing the same as the conditions require.

Conventional fiscal economics discusses at length the way government expenditure, debt policy and taxation can be used for some of the above mentioned objectives. There are trade-offs to be taken into consideration. The teacher is expected to discuss these following any standard text book on the subject. The incidence of direct and indirect taxes, and the impact of government expenditure should also be analyzed in this context. Earlier it has been noted that

$$C + E + I = Y = C + E + S$$

It can now be shown that

$$C + E + I + G = Y = C + E + S + T$$

Where G stands for government expenditure on consumption and investment and T stands for taxes. It follows that in equilibrium

$$I = S + (T - G)$$

The multiplier effect of government expenditure as well as the different impacts of deficit financing ($G > T$), and of surplus budget ($G < T$), should be explained. The limitations of macroeconomic policies in developing countries with capital shortages must also be underlined.

It should be noted that debt policy is not likely to play an important role in an Islamic economy. Since no interest can be paid on loans, the government can not expect to raise more than a modest amount of interest free loans in normal circumstances. It may, however, succeed in raising substantial amounts of interest free loans in case of emergencies such as war or famine.

Fiscal analysis in Islamic perspective has to pay special attention to the collection and utilization of profit-sharing funds as these are likely to play an important role in Islamic economy.

The government can obtain investible funds from the public by selling shares of public enterprises (the share-holders having a say in management through their representatives) or selling investment certificates (or deposit certificates) to form a

general pool meant for investment in various public sector projects. These investible funds can be directed towards the policy objectives listed above. The government can manipulate the profit-sharing ratio - the percentage of profit given to the supplier of funds - to attract more funds or otherwise. It is primarily in this sense, the possibility of acquiring a larger or a smaller amount of investible funds from the public by raising or lowering the profit-sharing ratio, that mobilization of investible funds becomes a tool of fiscal policy, largely replacing debt policy.

Besides the taxes that the government, with the consent of the governed, may from time to time decide to levy, *zakat* is a levy unique to the Islamic system which has to be studied in the context of fiscal policy. We proceed to study the nature of *zakat*, its base, its rate, the heads of its expenditure, and the way it can serve the objectives of fiscal policy noted above.

11.2 Zakat and Fiscal Policy

The following features of *zakat* should be elaborated upon before proceeding to analyze it in macroeconomic terms:-

- i) *Nisab*, or the minimum asset holding which obliges one to pay *zakat* .
- ii) Coverage extending to almost all forms of wealth and some forms of income as well as savings. It is useful to give the following breakup:

Capital assets liable to *zakat*: Animal wealth, commodities meant for trade and all inventories of consumer or capital goods, machinery, factory, equipment, rented land and buildings and shares and stock.

Current income liable to *zakat*: Mineral produce, agricultural produce, marine products.

Savings, current as well as past, liable to *zakat*. Gold and silver, monies and jewelry;

- iii) Rates of *zakat* levy: The different rates applicable to the assets noted above, i.e., 2.5%, 5%, 10% or 20% should be reported. It should be pointed out that there are two opinions regarding the rate and assessment of *zakat* on rented land, building, factory equipment and machinery not meant for sale but used in production;
- iv) Heads of expenditure of *zakat* revenue: There are eight heads of *zakat* expenditure identified in the Quran, five of which relate to the needy i.e. *fuqara*, *masakin*, *ibn al sabil*, *al riqab* and *gharimin*. Two relate to promotion

and defense of truth i.e. *muallafa tu qulubihim* and *fi sabil Allah*. Lastly, we have the cost of *zakat* administration (*al 'Amilin alaiha*) which can be met out of *zakat* revenue. In sum, *zakat* revenue net of the cost of *zakat* administration is to be spent on two major heads: Need fulfillment and promotion and defense of Islam, a larger part of the revenue being devoted to the former than to the latter. It may also be mentioned that some scholars allow expenditure on infrastructure and welfare projects out of *zakat* revenue.

Noting the point that the *zakat* base includes some capital assets, part of the current income and savings, it is expected that *zakat* revenue will constitute an appreciable percentage of G.N.P. But there is no reliable empirical study available at the present relating to any of the present day Muslim countries.

It is clear from the above that though the major part of the *zakat* revenue may come out of current income, some of it may also come out of capital (e.g. animal wealth, inventories). But we assume that all *zakat* is actually paid out of current income even though it is assessed on capital. Since *zakat* will be collected by the government in the first instance, all expenditure of *zakat* revenues will show up in G which stands for government expenditure. Similarly all *zakat* revenue will figure in T, i.e. taxes whether it comes out of current income or out of past wealth or capital stock. For analytical purposes *zakat* is distinguished from voluntary expenditure in the cause of Allah indicated by E above.

It is possible to have some idea of the amount of income transferred from the *zakat* payers to the *zakat* recipients. Let the society have a stock of capital K some of which is owned by the *zakat* recipients, which we denote by k_r and the rest by non-recipients denoted by k_n , so that

$$K = k_n + k_r$$

As noted above not all forms of capital are subject to *zakat* and the rate of *zakat* may also differ in respect to those which are subject to *zakat*. Keeping these facts in view, let us assume that z_k is the average percentage rate of *zakat* applicable to k_n as a whole, so that the *zakat* out of capital

$$Z_k = z_k \cdot k_n$$

It is assumed that no *zakat* is levied on k_r .

Also all savings are annually subject to *zakat* at a particular rate. Indicating this rate as z_s we have *zakat* out of saving.

$Z_s = z_s S_n$, where S_n stand for the savings of the non-recipients as no *zakat* is payable out of S_r , the savings of *zakat* recipients.

Not all current income is subject to *zakat*, but some of it like agricultural and mineral resources is subject to *zakat*, though the rates differ. Let z_y be the average percentage rate applicable to Y_n as a whole (which assumes a given composition of income), the *zakat* assessed on current income.

$Z_y = z_y Y_n$, where Y_n stands for the total income of the non-recipients as no *zakat* is assessed on Y_r , the income of the *zakat* recipients. So, the total *zakat* due and collected.

$$Z = z_k k_n + z_s S_n + z_y Y_n$$

Taking z to be a weighted average of z_k , z_s and z_y

$$Z = z. (Y_n + S_n + k_n)$$

Assuming the overall output capital ratio (y/k) to be k , we have $Y_n = k.K_n$ and assuming the propensity to save of the non-recipients to be s_n we have

$$S_n = s_n Y_n = s_n.k.K_n, \text{ so that}$$

$$Z = z (k.k_n + s_n.k.K_n + K_n)$$

$$\text{Or, } Z = z k_n (k (1 + s_n) + 1)$$

Which gives us the total amount of *zakat* collected from the non-recipients assessed on their annual savings, part of their income and some of their capital assets.

12.1 Distribution of Income and Wealth

A number of economists have attempted to construct a macroeconomic theory of income distribution in a capitalist economy. It is advisable briefly to introduce their theories and indicate the limitations of these theories, relying on the relevant literature.

Unfortunately no similar attempts have been made to study the distribution of wealth and what might change it over time. The need to do so from the Islamic viewpoint may be emphasized.

Reference may also be made to some very recent efforts to construct a macro-distribution model relevant to an Islamic economy.

One possible way of doing the same is to trace the impact of an annual transfer, on account of *zakat*, of the magnitude noted above ($Z = z.k_n (k(1 + s_n) + 1)$)

We express *zakat* as a fraction of current income

$$\frac{Z}{Y} = \frac{z k_n [k (I + s_n) + I]}{y}$$

Substituting $k_n K$ for Y on the right hand side we have

$$\frac{Z}{Y} = z \frac{k_n}{k} \cdot z \cdot s_n \frac{k_n}{K} + z \frac{k_n}{k} \cdot \frac{I}{k}$$

Which tells that in the short run for which z , k and s_n are given the percentage share of National Income transferred to the recipients on account of *zakat* depends on the share of the non-recipients in the social capital stock. In the limiting case when all social capital is owned by non-recipients so that $K_n = k$

$$\frac{Z}{Y} = z + z \cdot s_n + z \cdot \frac{I}{k}$$

$$z \left(I + s_n + \frac{I}{k} \right)$$

It is obvious from both these relations that in the long run the percentage share of *zakat* in national income is positively related to capital output ratio $1/k$ and the propensity to save of the non-recipients.

13.1 Inflation, Stabilization and Growth

We begin by discussing the nature of inflation - a general rise in the price level, and distinguish between demand pull inflation which is due to a shift in the economy's aggregate demand curve, and cost push inflation which has its impetus in an upward shift of the supply curve. The aggregate demand curve for output is negatively sloped with respect to the price level P , whereas the aggregate supply curve is positively sloped with respect to P .

A price rise leaves less money with the people than they want to hold and leaves their savings less than desired, obliging them to reduce demand in order to maintain real balances and savings at desired levels. This gives a negative slope to the aggregate

demand curve. Since the labor supply function is less sensitive to the price level than the labor demand function, the aggregate supply curve for output has a positive slope.

These general conclusions have to be explained in detail by the teacher. It will be useful to distinguish between an economy with full employment of resources and one with unemployed labor and unused capacity. The simple Keynesian analysis of deflationary and inflationary gap should also be discussed. The same applies to the classical model in which the only source of inflation could be the supply of money. The situation in which a demand pull rise in prices ensues because of temporary shortages, e.g. a crop failure, and other similar disturbances should also be distinguished from the more chronic cases of inflation. The unpredictable nature of impact of price changes on the supply of credit, because of the asymmetry in its impact on information, must also be noted.

The role of monetary and fiscal policy in dealing with disturbances in the short run can be discussed along conventional lines. Even in the absence of a rate of interest the supply of money can be regulated by the Monetary Authority to keep the real balances at the desired level. Fiscal policy can increase or decrease aggregate demand as the situation demands. The self correcting nature of the system in the long run and the capability of monetary and fiscal policies to correct imbalances in the short run should be explained with reference to the Islamic model based on profit-sharing. However the ability of the monetary authority to regulate the supply of credit remains a relatively less-researched area.

The important question to ask from the view-point of the Islamic model is: what is the relationship between price rise and the expected rate of profit, π^e , which appears in both the investment and savings functions discussed above. A rise in π^e will increase both investment demand and the supply of savings. While investment demand increases, decrease in the demand for consumer goods and services, caused by increased savings, implies that expectations relating to a higher rate of profit may not come true. Actually realized profits being less than π^e , the expected rate of profit, entrepreneurs will be obliged to revise their expectations, which would result in a decrease in investment demand which decrease would counteract the tendency of the price level to rise.

An exogenous rise in π^e , the expected rate of profit, may also raise the price level by causing investment demand to rise more than the decrease in consumption demand. Whether this rise will sustain itself will depend on the extent to which expectations relating to the rate of profit are realized in practice. This in turn will depend, one would think, on how far the expectations related to production possibilities rather than shortages, etc.

The profit-sharing system has another built-in stabilizer that may counteract the inflationary rise in prices. As entrepreneurs' demand for investment rises because of a higher π^e consequent upon a rise in the price level, brp , the ratio of entrepreneurial

profits which the financial intermediaries claim as suppliers of investible funds, may rise, having a dampening effect on investment demand.

A rise in the expected rate of profit, r , which is supported by an increase in the actually realized profits will sustain itself as expectations on profit are largely built around profits realized in the preceding periods. A sustained rise in r , the expected rate of profit, will, therefore, increase investment and expand output and employment. Once the economy reaches its (full employment) limits, realized profits will fall short of expectations and r will gravitate around a stable value putting a stop to the rise in price level P .

13.2 Inflation and Growth

The real sources of growth of output are labor, natural resources and technological progress. Increase in the supply of labor depends on the growth of population whereas increase in labor productivity depends, besides technological progress, on motivation, education and training and the state of knowledge. The state of knowledge is also crucial for discovery and fuller utilization of natural resources. Technological progress is directly related to state of knowledge as well as motivation. Proper motivation and the expansion of knowledge are, in the ultimate, crucial for long run growth. The signal through which growth potentialities are communicated to the system is r , the expected rate of profit. A rise in r spurs investment and savings. Increase in investment expands output and enables the system to increase savings without any adverse effect on aggregate demand so that the system can absorb a larger aggregate supply and the process of growth is sustained as long as the potentialities are there.

14.1 From a Capitalist to an Islamic Economy

This preliminary exercise in introducing Islamic concepts and modern macroeconomic analysis can be rounded off by considering in comparative static terms to begin with, the change from a capitalist economy to an Islamic economy. It appears that the change would emanate from three crucial factors. Replacement of interest by profit-sharing which restores to the rate of profits its due role in allocation of resources; social objectives motivating individual economic agents introduced in the form of such variables (and parameters) as E , z , α , β , and γ and fulfillment of basic needs of the poor and moderation in consumption with regard to the rich introduced in the form of α and m in the consumption function. Whatever the initial distribution of income, the effect of E and Z functions will be to transfer part of the national income from the rich to the poor, as long as there are 'poor' in the society. On the same assumption, introduction of α and m in the consumption function is likely to decrease the consumption of the rich and increase the consumption of the poor. However, the net effect on total consumption can not be predicted *a-priori*.

Consideration of social objectives, introduced in the form of θ in the investment function, may direct investment into socially priority directions. They may also lead to a larger investment, given production possibilities. Assuming the resource endowment and other economic conditions to remain the same, the change in investors' behavior symbolized by θ is likely to change the composition of aggregate supply in accordance with social priorities. Whether the volume of investment will also increase can not be affirmed without reference to the actual conditions.

Consideration of social objectives by workers and employers (θ' & θ'') may have a favorable effect on productivity of labor (by way of motivation) and wages (employers surrendering part of profit to workers). It may also affect the level of employment and actual hours of work put in (by eliminating or reducing strikes, lock-outs, go slow etc.). The net effect may be a larger volume of production.

Moderation in consumption by the rich will decrease conspicuous consumption reducing the consumption demand by the rich, whereas a minimum level of consumption will be ensured for all, increasing the consumption demand by the poor. These behavioral trends will be strengthened and ensured by suitable fiscal and monetary policy.

Replacement of interest by profit sharing is the most potent instrument of change introduced in our model. Our analysis reveals a definite gain in terms of stability. The Islamic model's self correcting power is greater than that in the capitalist model. Also, the innate tendency, in the capitalist model, for an inflationary trend to perpetuate itself is absent from the Islamic model. This follows from two basic characteristics of the Islamic model. Firstly, the creation of money in the Islamic model is firmly tied to production possibilities. Secondly, expectations relating to the rate of profit are not self justifying in nature, they are subject to correction by the actual possibilities of production as reflected in profits actually realized (around which profit expectations are largely built).

The absence of interest, restoration of the allocation role to the rate of profit, and replacement of interest by expected profits in the cost functions (see the part on microeconomics) will result in increasing the volume of investment, employment and output.

Summing up, the above mentioned changes are likely to take the economy to a higher level of employment and output. They are likely to change the composition of aggregate demand and aggregate supply in favor of basic needs and socially desirable consumption and investment; and a more equitable distribution of income and wealth, with the added advantage of ensuring greater stability, industrial peace and social cohesion.

15.1 Epilogue

As in the previous part, we have retained most of the tools of analysis developed by modern economics. Our points of departure are some behavioral assumptions and institutions incorporated in conventional theory. We have discarded the institution of interest and introduced profit sharing. As regards the behavior of economic agents, the consumer, the producer and labor, social objectives are introduced side by side with self-interest. The government appears in the model as an active participant in the economic process in order to maintain stability, ensure growth and effect a redistribution of income and wealth sufficient to secure universal need fulfillment, social solidarity and cohesion. These policy objectives are now universally recognized but the conventional theory fails to provide strong analytical support to the same. The theory presented above does so by incorporating into macroeconomic analysis a redistributive measure i.e. the unique Islamic provision of *zakat*, the injunctions relating to moderation in consumption and the guarantee of a minimum level of living to all humans.

There remains a need of evolving new tools of analysis, especially for studying distribution in the Islamic context, as the available models of macro-distribution are not very helpful. This is one of the many challenges yet to be met.