ISLAMIC DEVELOPMENT BANK
ISLAMIC RESEARCH AND TRAINING
INSTITUTE

ON THE DEMAND FOR CONSUMER CREDIT:

AN ISLAMIC SETTING

Research Paper
No.30

ISLAMIC RESEARCH AND TRAINING INSTITUTE (IRTI)

Establishment of IRTI

The Islamic Research and Training Institute was established by the Board of Executive Directors of the Islamic Development Bank (IDB) in 1401H (1981). The Executive Directors thus implemented Resolution No.BG/14-99 which the Board of Governors of IDB adopted at its Third Annual Meeting held on 10 Rabi Thani 1399H **(14** March 1979). The Institute became operational in 1403H (1983).

Purpose

The purpose of the Institute is to undertake research for enabling the economic, financial and banking activities in Muslim countries to conform to shari'ah, and to extend training facilities to personnel engaged in economic development activities in the Bank's member countries.

Functions

The functions of the Institute are:

(A) To organize and coordinate basic and applied research with a view to developing models and methods for the application of *Shari'ah* in the field of economics, finance and banking:

(B) To provide for the training and development of professional personnel in Islamic Economics to meet the needs of research and shari'ah-observing agencies:

(C) To train personnel engaged in development activities in the Bank's member countries;

(D) To establish an information center to collect, systematize and disseminate information in fields related to its activities; and

(E) To undertake any other activities which may advance its purpose.

Organization

The President of the IDB is also the President of the Institute. The IDB's Board of Executive Directors acts as its supreme policy- making body.

The Institute is headed by a Director responsible for its overall management and is selected by the IDB President in consultation with the Board of Executive Directors. The Institute consists of three technical divisions (Research, Training, Information) and one division of Administrative and Financial Services.

Location

The Institute is located within the headquarters of IDB in Jeddah, Saudi Arabia.

Address

Telephone: 6361400
Fax: 6378927/6366871
Telex: 601407 - 601137
Cable: BANKISLAMI - JEDDAH
P.O. Box 9201
Jeddah 21413
Saudi Arabia

Islamic Development Bank
Islamic Research and Training Institute

ON THE DEMAND FOR CONSUMER CREDIT:

AN ISLAMIC SETTING

Boualem Bendjilali

Research Paper
No. 30

King Fahd National Library Cataloging-in-Publication Data

ON THE DEMAND FOR CONSUMER CREDIT:
AN ISLAMIC SETTING

Research Paper No.30
Boualem Bendjilali- Jeddah.
50 p,17x24 cm.

ISBN: 9960-627-83-7

Legal Deposit no. 1445/16
ISBN : 9960-627-83-7

First Edition 1416H (1995)
Second Edition 1420H (2000)

In the name of Allah, The Beneficent, The Merciful

CONTENTS

FOREWORD

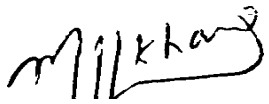
As an international financial institution fostering the economic development and social progress of the Islamic Ummah, the Islamic Development Bank (IDB) is responsible, inter-alia, for undertaking research and training in the areas of Islamic economics, banking and finance and other related fields. It was in realization of this particular responsibility that IDB established the Islamic Research and Training Institute (IRTI) in 1401H (1981). The institute's objectives are to undertake theoretical and applied research with a view of developing methods and models in conformity with Islamic Shari'ah in the fields of economics, finance and banking, to extend training facilities for personnel engaged in development activities in the Bank's member countries and to disseminate information in fields related to its activities. The Institute has already produced a series of monographs as an outcome of this activity.

The present research, "On the Demand for Consumer Credit: An Islamic Setting" by Dr. Boualem Bendjilali tries to lay down the main axioms that govern the consumer credit in an Islamic framework.

The study discusses in detail the economic implications of each one of them and brings up their differences. In addition, the paper derives the demand function for consumer credit using the *Murabaha* mode of financing. It shows that this demand function depends explicitly on the *Murabaha* rate, on the income structure size, and on the above axioms which are embodied in the first partial derivatives of the utility function of the consumer. A simple econometric model is built that can be used to estimate the demand for consumer credit in an Islamic setting.

It is hoped that the publication of this paper will be found useful by those who are actively involved in research as well as in teaching Islamic economics, banking and finance. It is also expected that the research will be beneficial for the world in general and, the Islamic Ummah in particular.

We seek the blessings of Allah, The Almighty to help us in our endeavours in spreading the word of Islam for the benefit of all mankind.



M. Fahim Khan
Officer-in -Charge, IRTI

INTRODUCTION

The issue of credit has profound implications at both. the micro and macro levels. At the micro level, the existence of a perfect credit market, will facilitate the problem of illiquidity, since consumers will be able to meet their expenditures without having to pay on the spot. In other words, in a perfect credit market individuals could borrow or loan in infinitely small amounts with certainty of repayments and with no costs of investment or disinvestment. That is, a spending unit under such circumstances could loan his receipts until needed to those whose expenditures exceed their receipts receiving repayments as needed for expenditures. However, it is difficult to have a perfect credit market since there exists always a probability of default in repaying and there are always costs involved in making and receiving such loans.

We are not interested in the present research at looking at the axioms governing the credit market as a whole nor are we interested in looking at its mechanism even though we think it is important.

Consumer credit represents one of the main component of the credit market. The development of consumer credit in a proper manner will promote the sale of goods in sufficient quality in the trade network, the demand for which lags behind supply or is subject to seasonal fluctuations. This will accelerate inventory turnover time, will avert the possibility of its physical deterioration and will reduce storage costs. The sale of goods on a deferred sales basis for example makes it possible to solve a number of social and economic problems. Consumers with non regular incomes, and those with relatively low incomes can purchase relatively expensive and necessary commodities and better satisfy their present requirements. The payment will be postponed for later date. Hence, consumer credit can be used to provide households with the basic needs which comprise first the *tharouriyat* as classified by the *fukaha.* In other words, consumer credit may be used as a financial instrument to direct the resources towards the production of such commodities

(tharouriyat) and to enhance their production process. Consumer credit may also be used by the policy makers in the development of regions that have some strategic importance in diverting more resources towards the inhabitants of this or that region the state would like to develop, and this through consumer credit as financial instrument. In addition, consumer credit can be regulated in such a way to enhance the investment of human and non-human resources of a particular region for the purpose of development. In other words, consumer credit as an instrument should be used to ease the life of those who cannot pay at the present moment not because of their means of payments but because of other external factors. Consumer credit should also be utilized to find solutions to some of the economic problems such as the liquidity problem, to enhance the production process of certain sectors and commodities through an increase in the production etc. Consumer credit as an instrument is used to orient, to motivate, and to enhance the economy to reach its goals. Hence, the terms of granting and repayment consumer credit change together with changes in the socio-economic conditions of life and the advancement of new social problems. Moreover, since consumer credit may have in general both monetary and commodity form, it will, therefore, shape the consumer demand. This is so, because consumer credit may be used to stimulate the expanded consumption of commodities that have high cost of production in its first stage of its production.

A regulated mechanism can then be set up by the financial institution using this instrument to respect the order priorities of goods. That is, a mechanism may be constructed in. such a way that the *tharouriyat* be fulfilled first, then the *ihtiyajat* and lastly the *kamaliyat* for a given income category of a particular country. Hence, consumer credit might have an effect on three dimensions, the income group dimension, the space dimension and the good classification dimension. In addition to this, consumer credit may also be used as an instrument to give to those who can afford to repay the credit on time; the possibility to maximize their life stream income.

Consumer credit takes three possible forms. The credit given to the consumer can be either greater than the consumer's means of payments less or equal. The credit is given by the financial system which

uses a mechanism working on certain principles. These principles are the key elements that control the speed of adjustment. If the speed is too high then credit exceeds the means of repayments and the consumer becomes indebted where the debt might be passed from the present generation to future generations. This speed depends on the pivots of the financial system in question. For instance, in the interest based system, the various advertising methods based on the psychology of the consumer have a great influence of persuasion which makes the consumer overspend sometimes for unnecessary articles. The use of the credit card became really a financial service card nowadays, since it reduces check fees and time transaction. This kind of cash drawing facilities might become a mean of temptation to overspend in non-consumer commodities such as gambling etc.

Banks in the interest based system extend credit on the basis of a collateral which represent the asset the consumer is holding such as his car, or his 'house or his piece of land etc., and on a promise of payment. Advertising methods are used to persuade the consumers to spend more than their means of payments. Such evil methods will give to the interest based financial institutions the opportunity to transfer the assets of these consumers who are not able to meet the terms of repayment of the contract. In general those who are not able to pay are the poors. This system has been able through consumer credit to transfer the ownership of the assets of the poors and middle class individuals to the rich who own most of the capital held in the banks. The poor consumers in the interest based system become poorer while the rich become richer. In other words, what the consumer benefits from credits in the form of goods and services is less what he will pay in form of principal and interests. The consumer become indebted and the debt is then passed from generation to generation. The problem of equity between generations becomes, therefore, a dilemma. This problem is felt in most of the third world countries such as Turkey, etc.

On the other hand, in the case of lack of collateral the interest based system as well as the Islamic system cannot extend credits. However, since their consumers belong to the group of poors the Islamic

state must provide to them the **necessary help through** the *Zakah* Institution or other Financial Institutions such as *Bait al Mal.*

In the interest based system where interest represents the bank's income; interest is the engine of transmission, that permits to transfer the income of the poor and middle income group to the rich income group. To give only some statistical figures, the rates of debt owed to consumer disposable income has risen reaching nearly 19 percent in 1986.' It has been noticed also that the incidence of credit use has risen, especially among consumers in the top 20 percent of the income distribution. This increases the numerator of the debt-consumer disposable income ratio while leaving the denominator unchanged. Moreover, as interest rate increases, consumers are less willing to use their savings to make purchases, using debt instead. This will increase the numerator of the previous ratio.

The principles governing consumer credit play an important role in the direction and magnitude of the economic impact that consumer credit will have on the welfare of the society. The modes of financing constitute the main determinants in shaping the form of the demand function of the consumer credit, where the demand function plays a key role in the construction of. the dynamic or the transmission mechanism. This transmission mechanism determines the speed of adjustment of consumer credit vis a vis the means of payments of the consumers. It is, therefore, crucial to know the principles that frame consumer credit in an Islamic economic environment and their economic interpretations. Moreover, the demand function for consumer credit which constitutes one of the main components of the consumer credit mechanism must also be investigated and estimated.

This study constitutes a step towards achieving this goal. This paper summarizes first the main studies that have dealt with the subject from an Islamic point of view. In its third chapter, it focuses on laying down the main principles governing consumer credit in an Islamic

---

[1] See W.C. Dunkelberg: "Analyzing consumer spending and debt", Business Economic 1989.

framework. The economic analysis of these principles will be discussed and the differences will be pointed out. These axioms should help us in deriving the demand for consumer credit. The third chapter of this study will in fact concentrate in deriving the demand function for consumer credit **using** the *Murabaha* mode of financing. The study will look at the different factors particularly those related to the principles cited above that will affect the demand function for consumer credit. Finally, the fourth part of this work will be dealing in constructing a simple econometric model that might be used to estimate the demand for consumer credit in an Islamic setting.

II

LITERATURE REVIEW ON ISLAMIC CONSUMER CREDIT

This part of this study gives a brief survey of the literature on consumer credit from an Islamic point of view.

Muhammad Najatullah Siddiqi has divided the members of the society who need consumption loans into two groups. The first one is composed of the needy people who have neither any assets nor any source of income that permit them to repay the loan. The second group is the category of people who possess assets and sources of income. If they are advanced loan temporarily to meet their existing needs, they can repay from their future income. Siddiqi views the first type of loans as a social welfare problem. He quotes *"This category of people who do not need loans, but they actually need financial assistance"*[1]. The solution to the problem of consumer credits for consumption for this type of needy consumers is viewed by Siddiqi to be in the provision of Qard Hassan from taxation revenues including Zakah and from savings made available to the public sector for this purpose.

The second category of individuals who have assets and source of incomes and temporarily need credits to meet their primary and secondary needs; may be financed on commercial basis. Siddiqi proposed more than one source of loans to fulfil the needs of this category. Among them, he proposed to establish autonomous bodies where consumers may raise funds by depositing their small savings from which loans could be provided for the members of this institution. Siddiqi argued also that saving banks and insurance companies whose objective in an Islamic setting is not to earn profit can temporarily advance loans to the individuals who have the capacity of repayment. Siddiqi explains that the application of profit-sharing principles to this second type of loans is difficult because the investment in consumer durables does not produce

[1] M. N. Siddiqi: "Banking without Interest", p 168.

a tangible marketable product and because there exists a number of imponderables making the imputation of value very difficult'.

Mannan in his article *"Consumption loan in Islam",* sets up four principles pertaining to consumption loan in general:

(1) The principle of genuineness which arises from the fact that taking a loan without any valid reason is discouraged in Islam.

(2) The principle of contract owes its origin to the verse 282 in sourate El Baqarah.

(3) The principle of payment. Mannan argues that the debtor *is* directed to make every sincere effort to make payment of the loan[3].

(4) The principle of help.

Mannan states that in an Islamic state it is presumed that a consumption loan shall be taken only to meet the genuine need of the people. He added that all types of loans in Islam are to be in the nature of grants in aid and not commercial transactions. The author thinks that an Islamic state may adopt any of the three or all three following courses of action to meet consumption loan:

(a) Through the creation of a network of consumers' cooperatives under the patronage of the state.

(b) Through the establishment of an Islamic Bank.

''Rationale of Islamic Banking', International Centre for Islamic Economics, Jeddah, 1981, P 7.

[3]Reference made to the Hadith "The Prophet, peace be upon him, did not like to say prayers over the bier of a person who had not paid his debt".

(c) Through the establishment of a Consumption Credit Fund by the government.

In his discussion on the principle of contract Mannan added that *"the principle of loan is equally applicable to both the consumption and productive loans. Islam has also made provision for granting a loan* ***against*** *proper security ".* The verse 282 in Sourate El Baqarah and which sates:

"When you deal with each other in contracting a debt for a fixed time, write it down" is related to debt and not to loan. The principle of contract that the author is laying down should focus on debt contract instead of loan contract.

Umar Chapra pointed out that it is the obligation of the Muslim society to meet the consumption needs of the poor. He added that borrowing for other consumption purposes needs to be controlled and organized. Umar Chapra sees that consumer credits should be discouraged and that the purchaser of goods for demonstration purposes for example should also be discouraged even on cash payment since Islam does not encourage a high consumption economy. The consumer credit which is considered necessary for realizing Islamic objectives could be arranged by the instalment businesses on a Mudarabah basis from individual financiers and financial institutions with whom the dealers have a profit and loss sharing arrangements. In short, Chapra argued that there should be no instalment finance arrangements in an Islamic society for common goods purchases which are unnecessary and prestige-oriented or which do not make any difference in the real' well-being of the individual or his family. He added that the financing of other essential welfare-oriented durable consumer goods purchases where the profit element is not attractive but their instalment sales are still considered necessary in socio-economic grounds should be arranged through specialized credit institutions.

Moktar Metwally in his article *"Financing housing, consumer* ***durable*** *and personal expenditure in an Islamic Economy: An Opportunity Cost Profit Approach",* presented a methodology which deals with the

problems of financing housing, consumer durable and other consumption expenditure, the methodology suggested in his paper is based on the opportunity cost principle which states that the true economic cost of any activity is the loss of economic return from the alternative economic activity which has to be foregone. He proposes that the rate of profit/loss which should be charged to household loans equals the opportunity cost of that loan. The author proposes that consumer credit can be conceived as follows:

(1) Banks in an Islamic economy makes loans to household to finance the purchase of consumer durables and consumers will be required to repay such loans over an agreed period of time.

(2) The bank and the household will agree on an opportunity cost project (O.C.P). The household will select an O.C.P. from the list of projects or activities to which the bank offers loans on Mudaraba basis.

(3) The O.C.P. once chosen, continues to be the basis for the duration of the loan.

(4) The household pays to the bank the amount of profit made on the primary loan but will receive credit for any loss.

The author in his method is linking the risk incurred by a given industry with the credit loan. Therefore, the bank would always like the customers to choose the good projects in order for them to pay a higher rate. On the other hand, the customers will try to choose the bad projects in order to gain and hence make the bank lose. In this case the bank and consumers have conflicts of interests. In addition, this method makes consumers bear the risk of investment projects without having any relation with these projects. Why should the consumers bear the risk of some thing that they don't have any thing to do with it ? Hence, the methodology advanced by the author does not sound correct neither economically nor it is in the spirit of Islam since Islam encourages the

cooperation and not conflict. In our opinion, the O.C.P. method advanced by the author is based on *riba.*

Toutouchian IRAJ: *"Consumer Durable, Investment and Financial Cooperatives in the Islamic Framework."* The study is concerned in incorporating a new institutional setting into the analysis of the demand for durables. Specifically, the attention is focussing on the type of institutions in a Muslim society, where consumer behaviour is a reflection of the Quranic rules on social and economic life. More specifically, the author takes the case of Iran where he analyzes first the demand for durables in the conventional setting then incorporating the new institutions into the analysis to find the implications of the effect of these new constraints on the behaviour of the consumer. The author considers the case of Persian consumers. The consumers found a mechanism for consumer credit that comply to the Shari'ah by forming Family Financial Cooperatives (FFC) among themselves in order to help those who are in need of borrowing. The demand for loans is financed by the voluntary participation of members whose earnings for some period exceeds their consumption for the same period. The objective of his research was to show that the FFC is a rational response to the intertemporal allocation problem within the Islamic framework. The author has used the conventional mode of maximizing the consumer's intertemporal utility function. The author has used the same model in deriving the demand for consumer durables subject to the Islamic constraints under the same assumptions as in the conventional model. Specifically these are related to the utility function and to the possibility of borrowing and lending at a zero rate of interest among the members of the Family Financial Cooperatives (FFC). He further argues that the existence of family financial cooperatives indicates that the members either (i) derive utility from joining the cooperative due to the Islamic teachings and their emphasis on cooperation with one another , or (ii) that they estimate that the implicit cost of borrowing without having to pay interest is less than or at least equal to the present value of the implicit return for that period.

He concludes that:

(1) Given the Islamic constraints prohibiting the charging of interest on loans, the FFC is a rational response of Muslims to the absence of a bond market.

(2) A consumer's utility is higher through participation in an FFC than in participation in the capitalistic sector as far as lending and borrowing are concerned.

(3) The existence of a positive rate of interest makes consumers in the capitalistic system save more and consume less than in the FFC model.

This study has used Qard Hassan as a mode of financing to finance consumers credit for durable goods, relying heavily on the smoothness of the intra-cooperative mechanism of the members of the FFC. In addition, the third result of this study may be in contradiction with the spirit of the Islamic principle of moderation, since Muslims are taught to be moderate in consumption.

In deriving the demand for durable goods under the Islamic framework, the author has used the same conventional model by setting the interest rate equal to zero, noting that the return on any amount of money lent using Qard Hassan as a mode of financing is equal to zero. Furthermore, given the main property of the Qard Hassan which is a finance help exit, the Islamic financial system cannot rely on this particular mode to finance consumer credit. His study did not consider the other modes of financing that could be used to finance durable goods such as *Murabaha* etc.

III

GENERAL SETTING

3.1 ON THE PRINCIPLE OF MODERATION

Islam has always incited Muslims to live according to their means and from their own work. The Prophet, peace be upon him, said:

قال رسول الله صلى الله عليه وسلم: " ما أكل أحد طعاما قط خيراً من أن يأكل من عمل يده وأن نبي الله داود كان يأكل من عمل يده " .
" أخرجه البخاري "

وعن أبي هريرة رضي الله عنه عن رسول الله صلى الله عليه وسلم قال : " اليد العليا خير من اليد السفلى، واليد العليا هي المنفقة واليد السفلى هي السائلة ".

عن أنس بن مالك رضي الله عنه قال : قال رسول الله صلى الله عليه وسلم " ما من مسلم يغرس غرسا أو يوزع زرعا فيأكل منه طير أو إنسان أو بهيمة إلا كان له به صدقة" .
" رواه البخاري "

عن أنس رضي الله عنه قال : أتى رجل من الأنصال يسأل رسول الله صلى الله عليه وسلم فقال " هل في بيتك شيء ؟ قال: نعم حلس نلبس بعضه، ونبسط بعضه، وقعب نشرب فيه الماء. فقال إئتني بها، فأتاه بها، فأخذهما صلى الله عليه وسلم بيده وقال: من يشتري هذين؟ قال رجل أنا آخذهما بدرهم، قال رسول الله صلى الله عليه وسلم. من يزيد على درهم مرتين أو ثلاثة. قال رجل أنا آخذهما بدرهمين فأعطاهما إياه. فأخذ الدرهمين وأعطاهما الأنصاري، وقال اشتر بأحدهما طعاما فانبذه إلى أهلك واشتر بالآخر قدوما فأتني به فشد رسول الله صلى الله عليه وسلم عودا بيده، ثم قال له: أذهب واحتطب وبع، ولا أرينك خمسة عشر يوماً، ففعل ثم جاء وقد أصاب عشر يوما ففعل. ثم جاء وقد أصاب عشر دراهم فاشترى ببعضها ثوبا، وببعضها طعاما، فقال له صلى الله عليه وسلم هذا خير من أن تجيء المسألة نكتة في وجهك يوم القيامة إن المسألة لا تصلح إلا لذى فقر مدقع أو لذى دم موجع.

---

١) صحيح الجامع لصغير وزيادته ص ١٣٦٢

Borrowing is assumed to be bad if it resorts to unnecessary purchases, such as, for demonstration purposes and should be discouraged even on cash payment. Islam does not encourage an extravagant consumption economy and calls for moderation. Many verses and Hadith emphasize this aspect. In sourate Al Furqan, verse 67, Allah says:

"Those who, when they spend are not extravagant and not niggardly, but hold a just (balance) between those (extremes) ".

" والذين إذا أنفقوا لم يسرفوا ولم يقتروا وكان بين ذلك قواما " .

(سورة الفرقان ، آية ٦٧)

Allah says in Sourate Al Israa verse 29 :

وقال تعالى :

" ولا تجعل يدك مغلولة إلى عنقك ولا تبسطها كل البسط فتقعد ملوما محسورا ".

(سورة الاسراء ، آية ٢٩)

"Make not thy hand tied (like a niggards) to thy neck, nor stretch it forth to its utmost, reach, so that thou become blameworthy and destitute ".

The Prophet, peace be upon him, told to one of his companions when he found him making ablution from a well without paying attention to the quantity of water spent, that he should be moderate in his consumption. The companion of the Prophet told him even when using water, the Prophet answered him even when using water.

On the personal level, borrowing is assumed to be bad because it incidates one is living beyond his means. On the aggregate level, borrowing is thought also to be bad because as the consumer debt grows the country may become a nation of debtors.

On the basis of the above Hadith and verses, the Muslim consumer will borrow only when it is necessary to borrow. Moreover,

the Islamic teachings incite the Muslim consumer to live from his own work and according to his own means.

Let us now examine the principle of moderation. Let U(X1 X_2) denote, the utility function of a consumer where X1 and X_2 represent two goods. Assume that the utility function is a well behaved function.

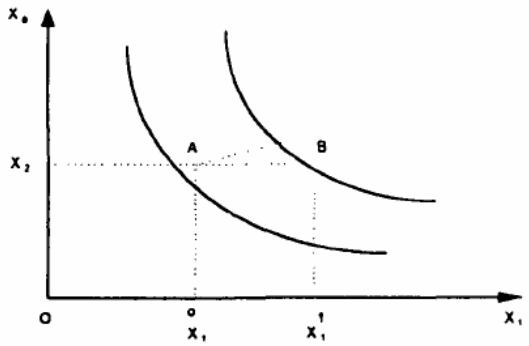


FIG. 1

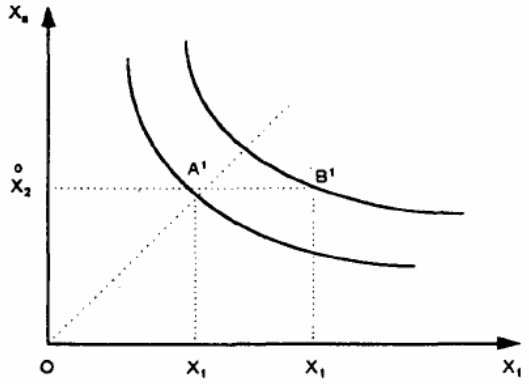


FIG.2

The total change in U is equal to

$$\Delta U = U_1 \Delta X_1 + U_2 \Delta X_2 \qquad (1)$$

Where U_1 and U_2 denote the partial derivatives of U with respect to X_1 and X_2 respectively.

The moderation principle states that for the same change in X_1 (ΔX_1) the change in U (ΔU) under the moderation principle is higher than under the non-moderation principle, as illustrated by fig.1 and fig. 2. In fig. 1, as the consumer moves from A on U_o to B on U_1, X_2 being constant and equal to X_2^o, he needs a quantity $\Delta X_1 = X_1^1 - X_1^o$ *of* X_1. On the other hand, in fig. 2, in order, for the consumer to move from A´ on U_o to B´ on U_1 keeping always X_2 constant and equal to X_2^o; the consumer needs the quantity $\Delta X_1^m = X_1^{1m} - X_1^{om}$. The change in U ($\Delta U$) in both figures is the same, however, the quantity of X_1 (ΔX_1) needed to move from A to B in fig.1 is greater than the quantity of X, (ΔX_1^m) needed to move from A´ to B´ in fig. 2.

On the other hand, we assume that the utility of the consumer U, is a function of consumption C where C is a function of income Y. Furthermore, we assume that U is a well behaved function (as used in the literature, i.e., U is smooth, differentiable, increasing with a decreasing rate, etc.)

$$U = U(C) \qquad \text{where} \qquad C = C(Y)$$

The total change in the utility U is equal to

$$dU = U' C' dY \tag{4}$$

Where U´ and C´ denote respectively the first derivative of U and C with respect to consumption (C) and income (Y), that is the marginal utility and the marginal propensity to consume.

If we compare a Muslim consumer who is supposed to obey to the principle of moderation to a non-Muslim consumer, then for one unit increase in income $(\Delta Y = 1)_1$, the change in the utility of a Muslim consumer is greater than the change in the utility of a non-Muslim. This can be expressed mathematically as follows. From equation (4), we, therefore, have

$$\Delta U_{N.M} < \Delta U_M$$

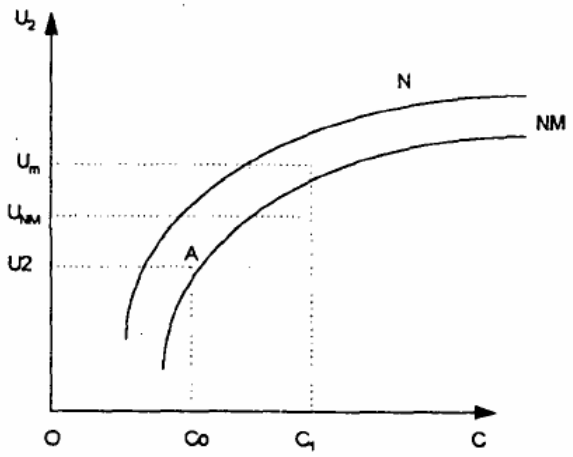
which is then equivalent to

$$(U'C')_{N.M} < (U'C')_M \quad (5)$$

which implies the following inequality.

$$(\frac{dU}{dC})_{I_{NM}} < (\frac{dU}{dC})_{I_M} \quad (6)$$

This result is true only for C greater than C_o which represents the bsistence level.



For a fixed amount C greater than C_o the utility of the Muslim consumer is higher than the utility of the non-Muslim consumer, since the Muslim consumer will observe the principle of moderation which leads to a higher utility for the same amount of consumption.

As an observation from this simple analysis, we get the following inequality between the ratio of marginal utilities and the ratio of marginal propensity to consume of the Muslim and Non-Muslim.

$$\frac{MU_{NM}}{MU_{M}} \leq \frac{MPC_{M}}{MPC_{NM}} \qquad (6)$$

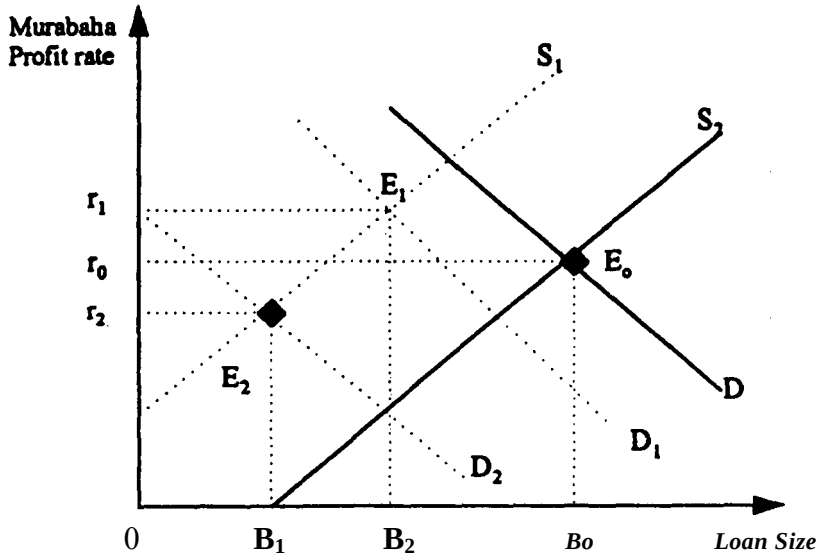
Inequality *(6)* shows that the ratio of marginal propensities to consume is always greater than the ratio of marginal utilities of the Muslim and Non-Muslim.

3.2 ON THE NON-RESCHEDULING PRINCIPLE

Differences between promised and actual requirements on *Murabaha* loans are the result of uncertainty concerning the consumer's ability (or willingness) to make the repayments when they are due. This creates the risk of borrower default (probability default). The repayment prospects are determined by the future income prospects, demographic factors such as the size of the family and the level of income of the consumer himself. For the financial institution that is giving the funds under *Murabaha* contract, the willingness to repay which depends on the degree of *Iman* of the borrower, may matter as much as the ability to repay. For the Muslim financial institution any delay in the repayment causes a financial loss. This financial loss increases with the increase in the default risk payment which increases proportionately with the difference of time between the due time and the next due time. -The Islamic financial institution has no right to charge the borrower for the extra time and there is no way how it can use its money. This amount of money is now idle for this extra period of time and no real transaction can take place corresponding to this amount of money. However, in the case of the interest based financial institutions, the borrower is charged with a higher interest rate because of the default of payment which constitutes a higher return for the interest based financial institution in case there is no other default of payment.

The non rescheduling principle in Islam allows the interest based financial system to gain a higher return than the previous one. On the other hand, the non-rescheduling principle makes loose the Islamic financial system on two grounds. On one side, the Islamic financial institutions get a zero return on the extra time allocated for the borrowed funds and on the other side no extra real transaction can take place during the extra period. Hence, the Islamic financial institution will be more

severe in the process of scrutinizing their customers to whom they will be given the consumers loans. Given this line of reasoning, the principle of non-rescheduling has a negative effect on the supply curve. Compared to the interest based system the supply curve in an Islamic setting will be lower holding every thing else constant. Moreover, the principle of moderation as we have already discussed has also a negative effect but on the demand side. The demand of funds in an Islamic setting is lower
than the demand in a conventional economy due to the moderation principle. This is illustrated in the following diagram using supply and demand analysis:



Let S_o and D_o denote the supply and demand of funds before applying the two principles (the principle of moderation and the principle of rescheduling), and let E_0 denote the equilibrium point between D_o and

S_o. We can think of Eo. of being the equilibrium point in a conventional setting where Bo. represents therefore the loan size allocated to consumers. When the principle of moderation is applied, D_o shifts downwards to D_1 or D_2. On the other hand, as we apply the principle of rescheduling the supply shifts also to the left from S_o to S_1. In case, it shifts to D_1 the new equilibrium point is given by E_l, leading to a higher *Murabaha* rate and a lower quantity of loanable funds. However, in case D_o shifts downward to D_2, we get the new equilibrium point E_2 that gives a lower *Murabaha* rate than the initial rate and a lower quantity of loanable funds B_2. The difference in magnitude in shifting between D_1 and D_2 depends on the first and second derivatives of the utility function of the Muslim consumer with respect to consumption. In other words, when both the demand and supply for consumer credit fall the total loans declines. On the other hand, the *Murabaha* profit rate will depend on the shifting magnitude of the demand which depends on the marginal propensity to consume and its rate; that is the *Murabaha* profit rate will in general be indeterminate unless we know explicitly the shifting magnitude of the demand.

3.3 ON THE PRINCIPLE OF LIVING ACCORDING TO HIS MEANS

Islam has always incited Muslim consumers to live according to their means and not be guided by their desires, but on the contrary, to be guided by the laws of the Shari'ah in all their practices even in their eating and drinking. Hence, as long as, their desires are in accordance with the principles of Islam in their directions and their magnitudes, these desires will be satisfied. However, if they deviate from these Islamic norms, they will constitute an abuse and therefore have to be corrected. Islamic banks advance loans temporarily to consumers who can repay such loans from their expected future incomes. These consumers in complying to the principle of living according to their means, will affect positively the growth of the demand of goods and services. The magnitude of the growth will be exactly equal to the expected change in the growth of their incomes. In other words, the demand of goods and services in an Islamic setting shifts upward to offset exactly the expected change in income. As long as the different factors that have been

considered to calculate the expected income, are real, the difference between the expected rise in income and the magnitude in the shift of the demand of goods and services will not in general be higher. The demand of goods and services might be higher or lower than the expected growth of income of the consumers, but by a difference that stays in a controllable range. The size of this difference is expected to not destabilize the economy.

However, in a non-Muslim economy, the different sophisticated methods of advertisements make consumers in general buy more than what they need. These same methods are also used to attract consumers to buy on credit, using the banking facilities of credit and payment. This of course enhance the demand at the first stage, but may lead later on to the transfer of ownership of the assets in the hands of those who will not be able to meet their promises of payments, to the hands of the rich who hold most of the capital in the economy.

If we denote by ΔY_i ($i=1,2\text{--}n$) the increase in the income of the consumer via consumer credit and by ΔM_i. ($i=1$ to n) the amount which will be paid by the consumer to the interest based financial system. ΔM_i is composed of the principal plus interests. If ΔY_i is less than ΔM_i, the consumer becomes indebted. If this debt grows over time, this will lead to the flow of the assets which are in the hands of the consumer to the owners of capital.

Islam came to regulate consumer credit based on the principles listed above as well as, on the modes of financing which eliminates all forms of speculations. If G, denotes the net gain of consumer i via consumer credit then a dynamic might be formulated which governs the gain of the consumer over time as follows:

where a; can be thought to indicate the speed of adjustment. This speed of adjustment depends on the nature of transactions which then depend on the modes of financing.

3.4 THE UNCERTAINTY ENVIRONMENT

To illustrate the effect of uncertainty, we assume that the person's income has two possible outcomes. Let Y denotes the uncertain income with Y_1 as the bad income and Y_2 as the good income. Let P1 and P_2 indicate the likelihood of each income ($P1 + P_2 = 1$). The expected income is $Ye = P1\ Y1 + P_2\ Y_2 = 1$ and represents the central tendency of the incomes.

In an Islamic setting, putting aside the *Qard Hasan* mode and concentrating only on the *Murabaha* mode of financing consumer credits, the loan contract specifies the price, the quantity and quality of the goods to be bought on credit and the mark-up. Hence, if P and Q represents the price and quantity to be bought on credit and r the mark-up, then the promised repayment is equal to the amount P.Q (1+r). We have three basic cases, depending on the size of the contracted repayment PQ (1+r) relative to the size of the two possible incomes.

Case 1: If the contract repayment (1+r) QP is less than the bad income Y1 the financier always receives the contract repayment.

Case 2: If the contracted repayment (1+r) PQ exceeds the good income Y_2 then the consumer always defaults and the expected repayment equals the expected income.

Case 3: This is the most interesting case when the contracted repayment falls between the two possible incomes. The expected repayment is then equal to $P_2(1+r)$ QP + P_1Y_1 which reflects the repayment of the contracted amount (1+r) PQ when the good income occurs with probability P_2 and repayment of the available proceeds Y, when the bad income occurs with probability P1. Since the expected repayment P1 Y1 + P_2 0+r) PQ is reduced by a lower value for the bad income but is unaffected by a higher value for the good -income, the financier and the consumer participate in this third situation to a zero - sum game, with the consumer keeping that part of the income not repaid to the financier. Consequently, with other factors being hold the same financier prefers safer consumers and higher mark-up, while the

consumer prefers just the opposite. These *Murabaha* contracts include terms which constrain the consumer to reduce the likelihood of default. Collateral is one of them, it consists of financial and tangible capital assets that are pledged by the consumer to guarantee at least partial if not complete, loan repayment. It is also worth noticing that the value of the collateral may be uncertain and there may be transactions costs associated in liquidating it. As a result, collateral may reduce, but generally does not eliminate the risk of default.

A Muslim consumer who approaches the Islamic bank to get a loan for a real transaction to be financed through *Murabaha* mode is endowed with a certain level of *Iman*. The degree of *Iman* which is directly associated with the degree of honesty will have a direct effect on the cost of default. Since the degree of *Iman* vary from one consumer to another, the cost of default will vary over the population. Some consumers have high cost of default because of their low level of *Iman* while other consumers have low cost of default, so they may intend to default. If we denote by Z (Ii) the cost of default associated with consumer i and where I, represents the level of *Iman*. The degree of *Iman* will indicate the degree of compliance to the Islamic Shari'ah. A "moral hazard" is therefore, introduced by the fact that consumer i will default if his cost of default Z (I_i) is less than the loan repayment (1+r)QP. This cost of default includes the lost access to further credit, the loss of prestige in the society etc. The Islamic financial institution, however, meets difficulties to identify the consumers who are likely to default, because these consumers will act in general as their honest counterparts so as not to identify their true character. However, one of the task of Islamic banks is the selection of the good partner in choosing projects as well as the selection of the good Muslim consumer in giving loans.

3.5 ON THE DEMAND FOR CONSUMER CREDIT

Several theories try to explain why households borrow to finance consumer expenditure. One of the best known theory is the life cycle hypothesis (L.C.H.) (Modigliani and Brumberg 1955), under which households may, during their earlier years, have a desired or required

level of consumption which exceeds their current income. This difference may be financed by consumer borrowing to be repaid out of their expected future income.

Another explanation to the borrowing, consumption, income relationship is suggested by habit persistence theories (Brown 1952, Mayer 1972 pp-20-1, Pollin 1988). Here current consumption depends heavily on past consumption levels, which in turn are affected by past income. Such theories are entirely backward looking. On the occasions when current income falls, therefore, one might anticipate a positive relationship between past income and current borrowing. In order to analyse the trade-off between consumer expenditure this and next period, we shall start by looking at the standard two-period model, in which consumer receives current income Y1 and future income Y_2 and has current consumption C_1 and expected second period consumption C_2 . Let r be the *Murabaha* market rate. We are assuming in this study that the consumer is getting credit from the Islamic financial institution on the basis of *Murabaha.*

By definition, the *Murabaha* contract requires the knowledge of the price, the quantity and hence the amount to be borrowed and the fixed mark-up to be charged[4]. If we assume also that there is no cheating on the part of the consumer, the amount to be borrowed equals by definition to the price times the quantity. In other words, if we denote by Ω_B the set of pairs constituted of prices and quantities by definition of *Murabaha* there corresponds one and only one element of Ω_B say (P_B, Q_B) for each amount B such that $P_B Q_B = B$. Hence, in an Islamic setting there exists a one to one correspondence between the market for goods and services and the financial market. In other words, the two markets, the financial market and the market for goods and services act as one market via the *Murabaha* mode of financing. Moreover, the equilibrium is determined simultaneously in both markets. Now, we study more formally the problem. Let $U(C_1, C_2^e)$ denotes the utility of the consumer. By

[4] 1f there is no quantity involved then there is no *Murabaha* and hence no consumer credit.

assuming all the differentiability conditions, the problem can be written formally as follows:

$$\text{Max } U(C_1, C_2^e) \tag{7}$$

Subject to the budget constraint

$$C_1 = Y_1 + P.Q \tag{8}$$

PQ represents the demand for consumer credit via *Murabaha* mode. This demand as also illustrated in Fig.1 and as represented by equation (13) depends, on the cost of credit represented by the *Murabaha* rate r, on the income structure size, and the form represented by the first and third argument of f, and also on the principle of moderation and the principle of living according to his means represented by the first derivative of the utility function U.

$$C_2^e = Y_2 - (1+r)\, PQ \tag{9}$$

or

$$C_1 + C_2^e = Y_1 + Y_2^e - r\, P\, Q \tag{10}$$

If instead of assuming perfect foresight we assume that

$$Y_2^e = \sum_{t=o}^{n} W_{1-t}\, Y_{1-t} \tag{11}$$

which shows that the future income depends on the (n+1) past incomes.

By plugging equation (11) into equation (10) the maximization problem becomes

$$Max \quad U(C_1, C_2^e)$$

subject to the budget constraint.

$$C_1 + C_2^e = Y_1 + \sum_{t=o}^{n} W_{1-t}\, Y_{1-t} - r\, P\, Q \qquad (12)$$

This maximization problem leads to

$$P.Q = f\,(Y_1,\ r,\ \sum_{t=o}^{n} W_{1-t} Y_{1-t}) - Y_1 \qquad (13)$$

Equation (13) shows that the amount borrowed which equals to P.Q depends on the function f which includes the households preferences for consumption today as opposed to consumption tomorrow. The household's preference depends on the principle cited above such as the principle of moderation and the principle of living according to his means.

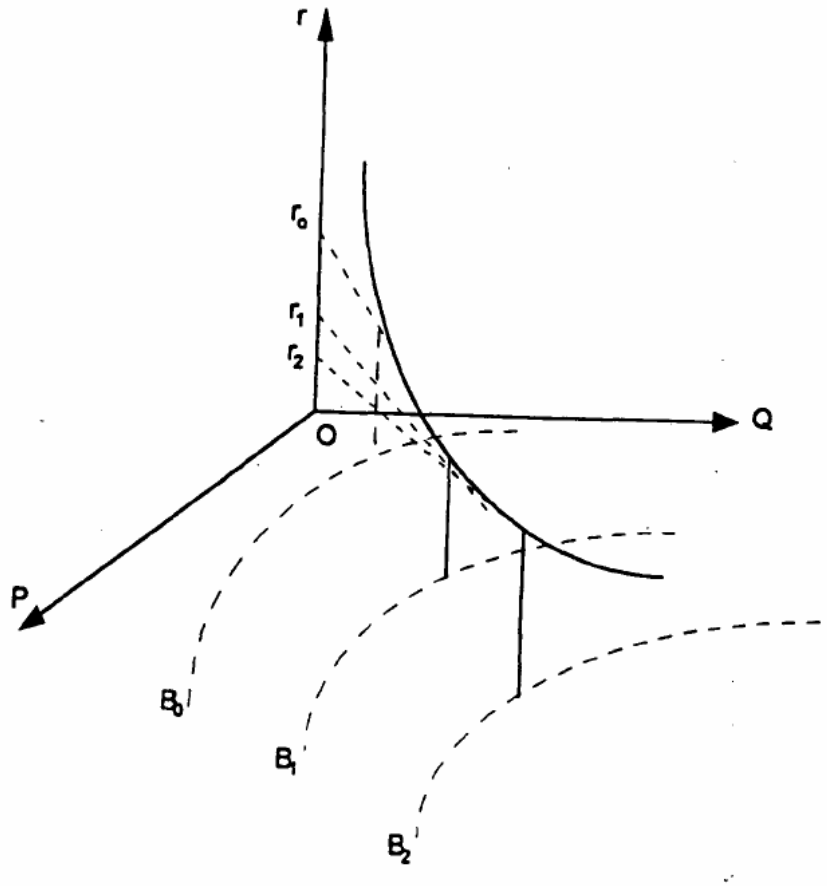
For a given value of the first period of income Y1, the quantity PQ which represents the amount borrowed is higher if the desire to spend now is relatively stronger and if the past periods' incomes are higher. Let us now look at the effect of a change in Y1 on PQ. From equation (13) we have

$$\frac{\partial\,(PQ)}{\partial\, Y_1} = f_1\, dY_1 + f_2\, w_1\, dY_1 - dY_1$$

$$\frac{\partial\,(PQ)}{\partial\, Y_1} = (f_1 + f_2\, w_1 - 1)\, dY_1 \qquad (14)$$

It is clear from equation (14) that Y1 affects the quantity of money borrowed for consumer credit in two ways. Assuming no change in C1, a one riyal increase in Y,, reduces the expected amount to be borrowed by one riyal: (this is the third term). On the other hand, an increase in Y_1 by dY1 shifts the demand upward by the quantity f, + f_2 w_1. Hence, an increase in Y_1 will not automatically results in an increase in the amount borrowed unless f1 + f_2 w1 is greater than unity. The quantity f, + f_2 w1 depends on the preferences of the consumer and hence on the principles governing his preferences and among them the principle of moderation and the principle of living according to his means.

In an Islamic setting, the goods and services market and the financial market are integrated with each other as if they form one market. Since to a given financial transaction, there must correspond one real transaction via the *Murabaha* mode of financing. The following figure illustrates the derivation of the demand for funds under the *Murabaha* mode.



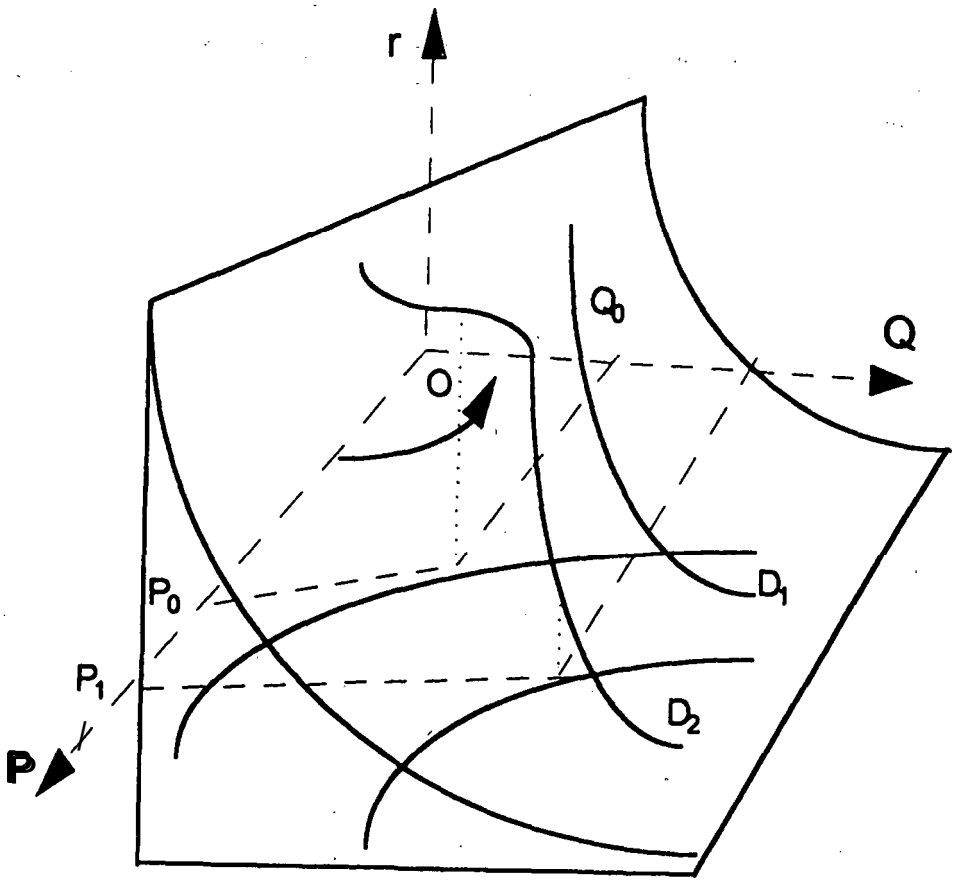


Fig.2

D1 represents the demand for consumer credits under regular conditions. D_2 represents the demand for consumer credits under irregular conditions such as non convexity of the utility function etc.

From equation (13) if P and Q denote respectively the vectors of prices and quantities of goods then equation (13) can be written in the form

$$P.Q = \|P\|\|Q\| \cos(P, Q) = f(.,.,.) = Y_1$$

which can be written as

$$\cos(P, Q) = \frac{1}{\|P\|\|Q\|} \{ f(Y_1, r, \sum_{t=o}^{n} W_{1-t} Y_{1-t}) - Y_1 \} \quad (15)$$

Equation (15) shows that the degree of dependence between the vectors of prices and quantities, since as the angle between the price vector and quantity vector changes the degree of dependence changes. For instance, as the angle approaches ninety degrees the vectors become independent. Hence the direction of these vectors is affected by any change in the angle and consequently by any change in the endogenous or exogenous variables such as the *Murabaha* rate, the present income or past incomes, or in the partial derivatives of (f) that are themselves directly related to the principles of moderation and living according to his means. On the other hand, if the amount of funds allocated for consumer credit B changes, then either one of the three following quantities changes, the magnitude of the vector prices or the magnitude of the vector of quantities or the cosine between these two vectors that is the direction, or any combination of these three quoted factors.

3.6 MACROECONOMIC ASPECT OF CONSUMER CREDIT

In analyzing the behavior of consumer credit, it is important to notice that the most important Islamic financial modes which can be used to finance consumer credit are *Murabaha* and *Qard Hasan*. This latter mode is a very particular one and appears to be limited by its nature. In addition, the limitation on the number of modes makes the volume of consumer credit transactions that could be performed by the Islamic financial system much smaller than what. could be performed by the interest-based system. This will imply that the excess amount which was supposed to go for consumer credit is now directed for investment. Moreover, given the rigidity and the larger set of information needed by the Islamic financial system concerning consumer credits, consumers are left with only one possible way which is to count on themselves by increasing their productivity through hard work. In addition to the existence of the one to one relationship between the goods and services

market and the money market will definitely restrict the creation of money.

From the simple following macro-economic equation

$$\mathbf{Y = C + I} \qquad \mathbf{(16)}$$

We conclude that consumption in an Islamic economy changes at a smaller growth than in a conventional economy due the first principle of moderation in consumption and the principle of living according to his means. The principle of moderation will have more effect on the rich group than the middle and poor group of the society. On the other hand, the principle of living according to his means has more effect on the two latter groups than the rich group. These two principles when applied will affect all segments of the society and hence, the aggregate consumption is lower compared to the aggregate consumption in a conventional economy.

Moreover, investment grows at a higher rate due to the channelization of resources towards investment because of the limitation of the number of modes of financing consumer credit and also because of their nature. Hence, the total change in the GNP; AY which is supposed to be higher in an Islamic economy due to the higher productivity will be equal to the change in consumption plus the change in investment. As noted before AC_M is less than AC, and AI_M is greater than AI, where M stands for Muslim economy and c for conventional economy.

Another point of interest is that in an Islamic economy debt or *dayn* will be equal to *Qard Hassan plus* deferred sales. If say Q, and DS denote respectively *Qard Hassan* and deferred sales, then the debt or *dayn is* equal to :

$$D = Q^{*} + DS \qquad (17)$$

Where

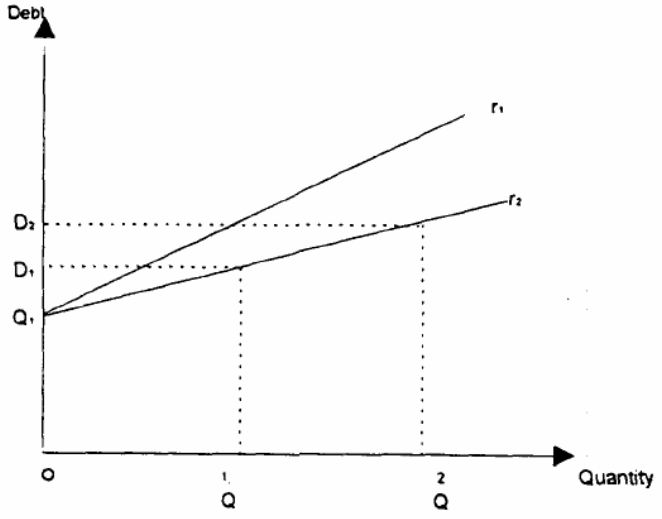
$$DS = (1+r)\ P.Q \qquad (18)$$

Where PQ represents the amount of money borrowed to buy Q units of goods at the price P. Hence,

$$D = Q^{*} + (1+r)\ PQ \qquad (19)$$

If we assume P = 1 for the purpose of analysis, equation (19) becomes

$$D = Q^{*} + (1+r)\ Q \qquad (20)$$



The slope of equation (20) is equal to 1 +r, which shows that the amount of debt varies proportionally with r. As the quantity Q increases from Q1 to Q^2 the amount of debt increases from D1 to D_2. The quantity Q* on the vertical axis represents the total amount of *Qard Hassan* which might be thought to be representing the level of solidarity or cooperation between the members of the society which of course gives also an idea in an Islamic society about the level of awareness of the application of the Islamic *Shari'ah,* and hence about the level of *Iman* in that society. The higher level of *Iman,* the more expected coercion between the members of the society will be and consequently, the higher quantity of *Qard Hassan* will be. In other words, Q* increases as the degree of coercion or (Tamasak) increases.

For the same level of debt D1, since the quantity of *Qard Hassan* had increased due to the increase in the degree of coercion between the member of the society, the less quantity (1 +r) PQ is needed to fulfill the equilibrium. This last part [(1+r) PQ] which represents the demand for consumer credit via the *Murabaha* mode decreases. This might have the following effects; either the quantity Q decreases (maintaining the same level of price P) or the *Murabaha* rate r decreases, or both of them. If the policy is to alleviate poverty, that is if we would like to reach the maximum number of consumers via the *Murabaha* mode, the *Murabaha* rate will be made close to zero. By converging r to zero, the quantity Q which gives a signal on the demand for funds via *Murabaha* increases over time giving a push to the production process. On the other hand, if r is maintained constant, then the quantity Q is reduced. Hence, the demand for consumer credit via *Murabaha* mode decreases. This decrease in the quantity Q will squeeze the demand for funds. Since there is a one to one correspondence between the goods and services market and the money market, the decrease in the demand for consumer credits will have a negative effect on the production process and consequently on the economy. It is important to notice that for the financier who would like to increase his net profit which equals in this case to rPQ, decreasing r or decreasing Q does not affect him as long as the quantity rPQ is maintained the same.

IV

ECONOMETRIC APPROACH TO THE ESTIMATION OF THE DEMAND FOR CONSUMER CREDIT

In practice we need to have a way to estimate the demand for consumer credit. This section tries to study and analyze the different endogenous and exogenous variables affecting the demand for consumer credit. It is clear from equation (13) of section (3.5) that the demand for consumer credit depends on the form of the utility function of the consumer. Since the desires and satisfactions of the consumer are governed by the main Islamic principles quoted before; the demand for consumer credit will be affected by these principles. In addition, form the same equation, the demand for consumer credit depends on the rate of profit from the *Murabaha* mode of financing r, and on the present income Y1 as well as past incomes. Moreover, other Islamic modes of financing such as *Qard Hassan* might be used in giving consumer credits. From practical point of view, it is also preferable to test the discrimination between . the different categories of consumers. In this study, we distinguish two groups, the employees and non employees of the Islamic institutions. We expect that the rate of profit on *Murabaha* to be lower for the employees of the Islamic financial institutions who might be given some privileges. We shall also consider these two groups for any other mode of financing used in giving consumer credits. Let us consider the following variables:

t	=	time
$D_{Ej}^{m,t}$	=	Demand for consumer credit in period t via *Murabaha* for the employees in group j.
$D_{N.Ej}^{m,t}$	=	Demand for consumer credit in period t via *Murabaha* for non-employees in group j.
$D_{Ej}^{H,t}$	=	Demand for consumer credit in period t via *Qard Hassan* for employees in group j.

$D_{N.Ej}^{Hs}$ = Demand for consumer credit in period t via *Qard Hassan* for non-employees in group j.

D_{Ej}^{Os} = Demand for consumer credit in period t via other modes of financing for employees in group j.

$D_{N.Ej}^{Os}$ = Demand for consumer credit in period t via other modes of financing for non-employees in group j.

r_E^t = Rate of profit on *Murabaha* for employees in period t.

$r_{N.E}^t$ = Rate of profit on *Murabaha* for non-employees in period t.

$C_{N.Ej}^t$ = Amount of collateral in period t deposited by the non-employees in group j.

C_{Ej}^t = Amount of collateral in period t deposited by the employees in group j.

$\bar{Y}_j^t$ = Average income of class j in period t; j = 1, 2, 3.

$\bar{Y}_j(-1)$ = Average income of class j in period t-1; j = 1, 2, 3.

$\bar{Y}_j(-2)$ = Average income of class j in period t-2; j = 1, 2, 3.

G^t = Dummy variable which indicates the policy control aimed at controlling consumer credit. G takes the value zero if there is no government lending restrictions; one if there are qualitative restrictions, two if there are quantitative restrictions.

The *Murabaha* rate is determined exogenously. Hence empirical appraisal is equivalent to examining what are the other endogenous variables that determine the demand alone. The earlier analysis identified the following factors : current income, past incomes, wealth. the profit rate via *Murabaha* and the main Islamic principles governing the behavior

of the consumer credit. The remaining influences are those which disturb the market from its equilibrium., The main variable is the policy control aimed at controlling consumer credit. This variable might have three values, the first value (zero for instance) indicates the periods when there are no government lending restrictions. This might correspond to the high level of *Iman,* when consumers as well as financial institutions are complying very rigorously to the *Shari'ah.* The second value (one) indicates qualitative restrictions and the third value (two) indicates quantitative restrictions.

The following system of. simultaneous equations represents the estimated demand for consumer credit where the coefficients in these equations represent the estimated ones. The original equations included an additional random error in every equation. This error term is assumed to have the usual assumptions such as normality assumption, expected value of the error term equals to zero etc.

$$D_{E.j}^{M,t} = a_o + a_1 r_E^t + a_2 C_{E.j}^t + a_3 \bar{Y}_j^t + a_4 \bar{Y}_j(-1) + a_5 \bar{Y}_j(-2) + a_6 G^t$$

$$D_{E.j}^{H,t} = b_o + b_1 C_{E.j}^t + b_2 \bar{Y}_j^t + b_3 \bar{Y}_j(-1) + b_4 \bar{Y}_j(-2) + b_5 G^t$$

$$D_{E.j}^{O,t} = k_o + k_1 C_{E.j}^t + k_2 \bar{Y}_j^t + k_3 \bar{Y}_j(-1) + k_4 \bar{Y}_j(-2) + k_5 G^t$$

$$D_{N.E.j}^{M,t} = \alpha_o + \alpha_1 r_{N.E}^t + \alpha_2 C_{N.E.j}^t + \alpha_3 G^t$$

$$D_{N.E.j}^{H,t} = \beta_o + \beta_1 C_{N.E.j}^t + \beta_2 G^t$$

$$D_{N.E.j}^{O,t} = \delta_o + \delta_1 C_{N.E.j}^t + \delta_2 G^t$$

We have introduced present and past incomes of the employees in the Islamic financial institutions because we expect that these data are in general available. However, we expect that the data on incomes for the non-employees is not available. The indice (j) indicates the income group. This system of equations will give us an idea on the demand for consumer credit and on the influence of each of these variables on the demand. The collateral represents a proxy for the wealth variable. The econometric procedure which could be adopted here, is to begin with a

general lag structure with more than two lagged values for both independent variables. We have taken first two in our model, but we can always extend in order to pick up the adjustment process of moving consumer debt to its desired quantity. The variables that will not be significant will be deleted. As indicated in the previous section coefficients of the income variables should be carefully interpreted. The regression coefficient of Y_1 (with Logarithmic data) actually measures the elasticity of the flow of debt with respect to the level of income. We expect that the income coefficients such as a_3, a_5, b_3, b_4, k_i, k_2, k_3, k_4, k_5 to be positive since the demand for consumer credit is expected to be positively related with present and past income. On the other hand, the government policy control variable G is expected to be negatively related to the demand for consumer credit since the demand for consumer credit will be restricted by the intervention of the government. Hence, the coefficients of the G variable such as a_2, b_1, k_1, α_2, β_1 and δ_1 are expected to be positive. Finally as the rate of profit on Murabaha increases the demand for consumer credit is expected to decrease. Hence the coefficients a_1, and α_1 are expected to be negative.

From the definition of the *Murabaha* mode of financing, since the difference between the end-period amount of consumer credit and the beginning period amount of consumer credit is equal to the difference between the end period amount of the product of quantity times price and its beginning period. Mathematically

$$D_1 - D_o = (PQ)_1 - (PQ)_o \qquad (22)$$

For each period the adjustment process of moving consumer debt to its desired quantity is equivalent to adjusting the quantities of goods and services to the desired optimal level in the good and services market given the prices. Moreover, knowing the correlation between the price vector and the quantity vector, the- adjustment process of moving consumer debt to its desired quantity will be equivalent at moving the vector of quantities of goods and services in the real market and the vector of the corresponding prices to their desired levels.

V

CONCLUSION

In this paper we have summarized the main studies that have dealt with consumer credit from an Islamic perspective. Most of these studies as we have pointed out, were of general nature but were necessary in this first stage. After a brief literature review, the paper emphasized on laying down the main principles that govern the consumer credit in an Islamic framework. The study discussed in detail these axioms examining the economic implications of each one of them and showing the main characteristics that differentiate them. In addition, the paper has illustrated the effect of uncertainty by introducing a moral hazard effect. It showed the positive relationship existing between the cost of defaulting and the degree of *Iman.*

On the basis of the previous axioms, the study derived the demand function for consumer credit using the *murabaha* mode of financing. The demand function has been shown formally to depend on the *murabaha* **rate which represents** the cost of credit, the income structure size and on the principles listed in the second chapter which are embodied in the first partial derivatives of the utility function of the consumer in question.

The study has also examined the effect of the -consumer credit on the macroeconomic variables. It showed that the effect of consumer credit on the aggregate demand in an Islamic environment is less than its counterpart in the conventional setting.

Finally, the study has set up a simple econometric model which can be used to estimate the demand for consumer credit. This simple model incorporates the usual variables such as present and past incomes, the rate of profit on *murabaha,* and some dummy variables related to government intervention. The econometric model examines the demands for consumer credit via the different modes of financing, *murabaha, qard hassan* and other modes of financing. In addition, it discriminates between the two categories of individuals, the employees in the Islamic financial institutions and the non-employees of these institutions.

BIBLIOGRAPHY

1. A. Sen, "The Moral Standing of the Market" in E.F. Paul et al (eds.) Ethics and Economics (Oxford, Eng.: Basil Balckwell, 1985).

2. Capiez Alain (1991), "Location Credit Bail et Risque de Valeur Residuelle", Analyse financiere 4eme trimestre, pp. 83-88.

3. David Altig and Steve J. Davis (1989) "Government Debt, redistributive fiscal policies and the interaction between borrowing constraints and intergonerational altruism", Journal of Monetary Economics 24, pp. 3-29.

4. E.S. Phelps, "Distributive Equity", in J. Eatwell et al (eds.), New Palgrave: Social Economics (New York, NY: W.W. Norton, 1989).

5. Hartropp Andrew (1992), "Demand for consumer borrowing in the U.K. 1969-90",.Applied Financial Economics, pp. 11-20.

6. Jaffee and Stiglitz (1990), "Credit Rationing", in Hand Book of Monetary Economics, vol. 2, by Briedman Benjamin and Hahn Frank.

7. J.D. Pitchford (1989), "Optimum Borrowing and the current account when there are fluctuations in income", Journal of International Economics 26, pp. 345-358.

8. J. Rawls, A Theory of Justice (Harvard, MA: Harvard University Press, 1971).

9. J. Tinbergen, "The Optimum Order Revisited" in G.R. Feiwel (ed.) Arrow and the Foundations of the Theory of Economic Policy (London, Eng.: Macmillan, 1987).

10. Lawrence Ausabel (March 1991), "The Failure of Competition in the credit market", The American Economics Review, vol. 81, No.1, p.50-81.

11. M.A. Choudhury, The Principles of Islamic Political Economy : A Methodological Enquiry (London, Eng: Macmillan Press Ltd., 5 New York, NY; St. Martin's Press, . 1992).

12. M.A. Choudhury, Islamic Economic Co-operation (London, Eng.: Macmillan and New York, NY: St. Martin's Press, 1989) Ch. 2.

13. MA. Choudhury, "The Islamic Profit Sharing System in Comparative Perspective", The Middle East Business and Economic Review, Vol. 4, No.2, July, 1992.

14. M.A. Mannan (1970), "Consumption loan in Islam", The Islamic Review and Arab Affairs 58.

15. M.N. Siddiqi, "Economics of Profit Sharing", in Z. Ahmed et al (eds.) Fiscal Policy and Resource Allocation in Islam (International Centre for Research in Islamic Economics & Institute of Policy Analysis: Jeddah, Saudi Arabia and Islamabad, Pakistan, 1983).

16. M.S. Choudhury, "A Theory of Moral Entitlement in Resource Allocation", in Z. Sattar (ed.) Resource Mobilization and Investment in an Islamic Economic Framework (Herndon, VA: International Institute of Islamic Thought, 1992).

17. N. Siddiqui, "Banking without interest", Islamic Publication Ltd., Lahore.

18. Toutounchian, I. (1977), "Consumer durables investment and financial cooperatives in the Islamic framework", Ph.D. thesis 1977.

19. Umer Chapra (1985), "Towards a Just Monetary System", The Islamic Foundation, Leicester, U.K.

20. W.F. Sharpe, Portfolio Theory and Capital Markets (New York, NY: McGraw-Hill, 1970).

ISLAMIC DEVELOPMENT BANK (IDB)

Establishment of the Bank

The Islamic Development Bank is an international financial institution established in pursuance of the Declaration of Intent by a Conference of Finance Ministers of Muslim countries held in Jeddah in Dhul Qa'da 1393H (December 1973). The Inaugural Meeting of the Board of Governors took place in Rajab 1395H (July 1975) and the Bank formally opened on 15 Shawwal 1 395H (20 October 1975).

Purpose

The purpose of the Bank is to foster the economic development and social progress of member countries and Muslim communities individually as well as jointly in accordance with the principles of *Shari'ah.*

Functions

The functions of the Bank are to participate in equity capital and grant loans for productive projects and enterprises besides providing financial assistance to member countries in other forms of economic and social development. The Bank is also required to establish and operate special funds for specific purposes including a fund for assistance to Muslim communities in non-member countries, in addition to setting up trust funds.

The Bank is authorized to accept deposits and to raise funds in any other manner. It is also charged with the responsibility of assisting in the promotion of foreign trade, especially in capital goods among member countries, providing technical assistance to member countries, extending training facilities for personnel engaged in development activities and undertaking research for enabling the economic, financial and banking activities in Muslim countries to conform to the Shari'ah.

Membership

The present membership of the Bank consists of 53 countries. The basic condition for membership is that the prospective member country should be a member of the Organization of the Islamic Conference and be willing to accept such terms and conditions as may be decided upon by the Board of Governors.

Capital

The authorized capital of the Bank is six billion Islamic Dinars. The value of the Islamic Dinar, which is a unit of account in the Bank, is **equivalent** to **one** Special Drawing Right (SDR) of the International Monetary Fund. The subscribed capital of the Bank is 3,654.78 million Islamic Dinars payable in freely convertible currency acceptable to the Bank.

Head Office

The Bank's headquarters is located in Jeddah, Saudi Arabia and it is authorized to establish agencies or branches elsewhere.

Financial Year

The Bank's financial year is the Lunar Hijra *year.*

Language

The official language of the Bank is Arabic, but English and French are additionally used as working languages.

Boualem Bendjilali

Date and Place of Birth: 1948; Algiers, Algeria

Academic Qualifications:

- Licence (BS) in Mathematics, University of Algiers, 1972.
- Diploma d'Etudes Approfondies (D.E.A) in Dr; Dr. Statistics, University of Algiers, 1973.
- M.A. in Economics, University of Kansas, 1979.
- Ph.D. in Economics with Econometrics as applied to Economic Development, University of Cincinnati, Ohio, USA 1983.
  Ph.D. in Mathematics, specializing in Differential Equations, University of Cincinnati, Ohio, USA, 1984.

ught More than 18 Years:

- Economics, Econometrics, Mathematical Economics, Statistics, Operation Research, Differential Equations and Numerical Analysis at the University of Cincinnati, U.S.A., University of Science and Technology, Algeria; King Saud University (Qassim Branch), Saudi Arabia.

Worked as:

- Head of Economics Department, King Saud University, Qassim, Saudi Arabia.
- Project Leader of Econometric Model for Algeria in collaboration with the University of Louvain, Belgium.

ablications:

- More than twenty papers in Economics and Mathematics in Internationally reputed journals such as SIAM (Journal on Applied Mathematics), U.S.A., Journal. Applicable Analysis (U.S.A.), Journal of Mathematical Analysis and Applications (U.S.A.), Journal of Social Sciences, Kuwait; Statistical Journal, Egypt, IRTI/IDB Publications.
- More than five books in Arabic and English.

Conferences/Seminars:

- Coordinated many Conferences/Seminars in areas of Islamic Economics in Arabic, French and English and participated as lecturer and discussant.

Present Position:

- Economic Researcher and Officer-in-Charge of the Islamic Economics, Cooperation and Development Division of IRTI, Islamic Development Bank.

ISLAMIC DEVELOPMENT BANK
ISLAMIC RESEARCH AND TRAINING INSTITUTE
Postal Address: P.O.Box 9201, Jeddah 21413
Kingdom of Saudi Arabia
Cable Address:BANKISLAMI- Jeddah Telephone: 6361400
Telex: 601137/601945 Facsimile: 6378927 / 6366871
E. Mail Address : ARCHIVES @ ISUB.ORG.SA Home Page: HTTP : **/ / WWW.ISDB.ORG**

Legal Deposit No.144
ISBN : 9960-627-837