

**INCOME DETERMINATION
IN
AN ISLAMIC ECONOMY**

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1407 A.H, – 1987 A.D.

**Digital Composition for Web by:
Syed Anwer Mahmood
Islamic Economics Research Centre
Published on Net January 2008**

Foreword

In the process of income determination in a secular framework, the rate of interest plays a crucial role. Interest is prohibited in Islam. Hence, it is important to develop macro models without the rate of interest and work out their implications for the level and process of income determination in an Islamic economy. Similarly, in an Islamic economy the levy of *zakah* must be incorporated as institutionally given. This is the job that Dr. Ausaf Ahmad has taken up in this paper.

The author has shown that in the framework of a Keynesian macro model, the institution of *zakah* and *infaq* necessarily imply a higher level of income for given values of other parameters. The result follows from the assumption of a higher marginal propensity to consume of the lower income group than that of the higher income group combined with a redistribution of income in favour of the former through *zakah* and *sadaqdt*.

The author has also derived an investment function which depends on the profit-sharing ratio rather than the rate of interest. He has shown that the pro fit-sharing ratio is capable of generating a stable equilibrium between savings and investment in an Islamic economy.

The fact that the author has conducted his analysis in a Keynesian framework, should not be taken to imply that an Islamic economy is characterized by such a model. The task of developing macro model for an Islamic economy needs a much more comprehensive analysis encompassing all sectors of the economy and their interrelationships. By suggesting a modification in the underlying relationships in one sector, the author has started a process through which useful insights will be provided into the working of an Islamic economy. The Centre would very much like to have more research and contributions in this important area.

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I

Introduction

Income is generated in an economy when its main agents, producers and consumers engage themselves in various productive activities. Thus, total income generated in an economy is a measure of aggregate productive activity carried out in the economy and theory of income determination gives an account of how an aggregate economy functions. The economic reality of our times is too complex and diverse. Therefore, economists prefer to work with theoretical models in which the relevant institutional material is introduced as successive approximation proceeds. The purpose of this paper is to formulate a model of income determination in Islamic economy. Respecting the age old tradition of economic analysis, a theoretical method of enquiry and techniques of successive approximation shall be used in this paper.

When the 'great masters' developed what is known as 'classical economics', the terms of reference were the economic ideas of Physiocratic and mercantilist era. For the Keynesian revolution of 1940s, the term of reference was classical economics¹. For the monetarist revolution and 'Keynesian counterrevolution' of Clower and Leijonhufvud, the examination of Keynesian economics became the point of departure². Similarly, the frame of reference for Islamic economics would be 'non-Islamic economics'.

Broadly speaking, the 'non-Islamic economics' may further be classified into capitalist and socialist economics. This nomenclature, keeping in line with the established tradition in the profession, is used for theoretical constructs though no such thing as a pure 'capitalist' or pure 'socialist' economy may exist in the actual world. Similarly, 'Islamic economy' also refers to a theoretical construct based upon certain set of axioms accepted *a priori*. Among the non-Islamic economics, socialist economy shall be excluded from the domain of our

discussion and term of reference because all productive resources in such an economy are owned by the state and all economic decisions are centralized. There is no theory of income determination separate from a theory of production in a socialist economy. It is only in the context of non-Islamic capitalist economy that theory of income determination assumes more importance. Therefore, we shall take the macro functioning of a modern capitalist economy as our point of departure.

There is the little between agreement economists on how income is determined in advanced capitalist economy. This difference functional of opinion emanates from different relationships postulated and different values assumed about the magnitude of certain parameters. Thus, functioning of a capitalist is viewed from several alternative economy perspectives. These include:

- (a) The non-Keynesian system which is also called the classical system of income determination. It is based upon the notions ideas and which were popular among the professional economists prior to the publication of 'General Theory'.
- (b) Keynes' system which germinated in the 'Treatise'³ and was fully developed in the 'General Theory'.
- (c) The so-called Keynesian system or income and expenditure approach as developed by Hicks, Hansen and Samuelson⁴.
- (d) The anti-Keynesian system as formulated by Milton Friedman and his associates⁵.
- (e) The neo-Keynesian system as set out by Clower and others⁶.

This paper is concerned with the presentation of a model of income determination in an Islamic economy. The scheme of presentation is as follows:

Section II reviews different systems of income determination in a capitalist economy. Section III investigates the process of income determination in an Islamic economy. Several models of income determination have been worked out under varying assumptions and an attempt has been made to establish that income determination Islamic economy would be markedly different from that in a capitalist economy. The last section gives summary and conclusions.

II

Income Determination in a Capital Economy

- **The Classical Model**
- **The Keynesian System**
- **The Monetarist Perspective**

There is no one single model of income determination for a capitalist economy which might be acceptable to all economists. We shall, therefore, present here models of the major schools of thought which have come up with alternative explanations of income determination,

(a) The Classical Model

The classical model of income determination is based upon following eight equations:

$$Y = Y(N) \quad (a.1)$$

$$N_d = N_d(W/P) \quad (a.2)$$

$$N_s = N_s(W/P) \quad (a.3)$$

$$N_d = N_s \quad (a.4)$$

$$S = S(r) \quad (a.5)$$

$$I = I(r) \quad (a.6)$$

$$S = I \quad (a.7)$$

$$M = k P.Y \quad (a.8)$$

The symbols carry the following meanings:

- Y = real income
- N = volume of employment
- N_d = demand for labour
- N_s = supply of labour
- W = money wage
- P = price level
- W/P = real wage
- S = saving
- I = investment
- r = interest rate
- m = quantity of money
- k = proportion of money supply held by people.

The model states that income, in the short run, is determined by the volume of employment. So the equation (a.1) is a production function. Demand for labour is an inverse, and supply of labour is direct function of real wage. Since, prices and wages both are assumed to be perfectly flexible, real wage rates are also perfectly flexible. Given this flexibility, the forces of demand and supply will clear the labour market. All those desirous of jobs would find employment and there would be no involuntary unemployment. Full employment would be automatically achieved and output (income) would be capacity output (income).

The ex-ante demand for employment depends upon ex-ante demand for investment. Hence, it is necessary to examine the conditions in product market, if one is interested to know the total volume of employment in the economy. The equations (a.5) to (a.7) summarize the product market. Saving is a direct function of interest rate while demand for loanable funds (which used for making investment) is a decreasing function of interest rate. The equation (a.7) is an equilibrium condition assuming that ex-ante saving and ex-ante investment would be equal at equilibrium rate of interest. The equilibrium level of investment would generate only that much demand for labour which would coincide with full employment. For the successful functioning of the classical system, it is imperative that prices, wages, and interest rate, all be perfectly flexible and there be no money illusion.

The last equation introduces money into the system. Given the value of k and real income (Y) determined within the system, the amount of money supply determines the price level.

The classical system leaves no room for the operation of fiscal policy. If the system gets out of the gear, little adjustment in monetary policy would be more than sufficient to bring it back to equilibrium. The

underlying philosophy is based upon *laissez-faire*. Every tax is regarded as a 'necessary evil'. The government is called upon to keep its budget balanced and remain neutral to the drama staged by capitalists and workers, producers, and consumers in the economy.

(b) The Keynesian System

Although the classical model was applauded for aesthetic beauty of its deductions and many of its dictates became articles of faith for the experts of 'dismal science' the world did not go by it. The great depression of 1930s showed how far from the reality were the postulates of classical economics. Consequently, after publication of 'General Theory of the Employment, Interest and Money' a new model of income determination became popular among economists christened 'Keynesian' and was after the name of John Maynard Keynes, the torchbearer of Keynesian revolution.

The essence of Keynesian economics can be summarized in the following propositions:

- (i) Consumption (saving) is a stable function of income. The stability and vitality of multiplier depends upon the validity of this proposition.
- (ii) The equality of and ex-ante saving level of investment determines the level of income and not the interest rate.
- (iii) The determination of interest rate is a monetary phenomenon and the demand for money is highly interest elastic and unstable.
- (iv) The interest elasticity of demand for investment is low.
Wages are rigid downward and there is 'money illusion' in the labour market.

These postulates are summarized in the following system of equations:

$$Y = Y(N) \quad (b.1)$$

$$N_d = N_d(W/P) \quad (b.2)$$

$$N_s = N_s(W/O) \quad (b.3)$$

$$N_d = N_s \quad (b.4)$$

$$M_d = k.p.y + L(r) \quad (b.5)$$

$$M_s = \bar{M}_s \quad (b.6)$$

$$M_d = M_s \quad (b.7)$$

$$S = S(Y,r) \quad (b.8)$$

$$I = I(Y,r) \quad (b.9)$$

$$S = I \quad (b.10)$$

The symbols used in these equations carry their usual meaning and have also been described above. The system assumes short run and given prices. The economy is decomposed into three sectors – the labour market, the product market and the money market. The equation (b.2) to (b.4) summarize labour market. The equation (b.2) gives the demand for labour which is a function of real wage. The equation (b.3) gives the supply of labour which is a function money wages. The equation (b.4) is the equilibrium condition. Due to presence of money illusion in the labour market, the forces of demand and supply are not always able to clear it. This results in involuntary employment. The economy is unable to cope with the involuntary unemployment mainly because of two reasons: Firstly, the interest elasticity of demand for investment function is very low, if not zero. Secondly, the demand for money function is highly volatile. The equation (b.5) describing demand for money function has two components: the transaction demand component and speculative demand component. The interest elasticity of speculative demand is assumed to be very high. Thus increases in the supply of money fail to

bring down the interest rate and stimulate investment whose interest elasticity is low. Thus the system may achieve an underemployment equilibrium.

The Keynesian system of income determination leaves some room for monetary and fiscal policies to operate. In fact, a limited role for monetary policy and a vigorous role for fiscal policy had been provided in the model. The monetary policy cannot succeed in bringing the economy back to full employment because of liquidity trap. The fiscal policy operating through expenditure and tax programmes of the government would be able to stimulate the aggregate demand, investment activity and ultimately to increase the demand for labour. Thus, fiscal policy will be successful in achieving full employment. Of course, the objectives as well as operation of compensatory fiscal policy will be different during different phases of a business cycle. The crux of the Keynesian philosophy of fiscal determinism is that a free capitalist economy supported by a price system is unable to achieve and maintain full employment.

(c) The Monetarist Perspective

The Keynesian ideas and prescriptions spread all over the capitalist world with amazing rapidity. “We are all Keynesian now became the popular slogan of professional economists instead of *laissez faire*. During the 1950s and 1960s the capitalist economies boomed supported by huge military expenditures, large deficits, exchange controls and mounting government expenditure on social and welfare programmes. The full employment or near full employment situation prevailed in most of the advanced capitalist countries and small temporary deviations from full employment were easily taken care of through easy money policy, tax cuts and government sponsored expansion programmes. However, 1970s showed that old Keynesian prescriptions were not being enough. A new phenomenon of stagflation – the simultaneous existence of substantial

rates of unemployment and high rates of inflation took into grips most of the advanced capitalist economies.

The monetarist onslaught on Keynesian economies began against the above background. The banner of revolt against Keynesianism was raised by Milton Friedman – an American economist who completed most of his works in the late 1950s and 1960s but whose thought gained currency and respectability only during the early 1970s. The basic bone of contention between the monetarists and Keynesians is the role of money in the theory of income determination of a capitalist economy. The monetarists believe that demand for money function is much more stable than what Keynesians think it to be. Like the classicals, they think determination of rate of interest is a real phenomenon. Therefore, they argue, that interest rate can not be kept down artificially for indefinite periods by manipulating monetary tools. The demand for money in the Keynesian system is highly interest elastic; but in the monetarist view interest elasticity of demand for money is very low, if not zero. Because of this reason, monetarists do not assign a prime role to fine-tuning and discretionary monetary policy. Instead, they plead for a ‘rule’ of monetary expansion.

In fact, the monetarists do not have a theory of income determination as such. Most of their propositions and postulates are based upon empirical Observations. For example, zero interest elasticity of demand for money is the result found in several regressions of demand for money upon interest rate⁸. Similarly, it has been claimed, on the basis of empirical results that money multiplier is more stable than investment multiplier and predicts the short-term fluctuation in nominal income in a more satisfactory manner⁹. Using these empirical findings, monetarists argue that fiscal policy should not be used for the control of private capitalist economy and discretionary monetary policy must also be abandoned. Instead, a rule of money supply expansion must be adopted¹⁰.

For instance, the money supply may grow at the rate at which the economy is growing.

The basic philosophy behind the monetarist perspective is the belief in the market mechanism. The monetarists want to remove all hurdles in the successful functioning of the market mechanism which shall ensure that labour market is cleared and full employment is achieved. They claim that there is no trade-off between unemployment and inflation. One cannot be reduced at the cost of the other¹¹. Inflation is seen as a purely monetary phenomenon while the determination of employment depends upon the real forces.

III

Income Determination in a Islamic Economy

- **Simple Income Determination with
Autonomous Investment**
- **Multiplier**
- **The Tax Function**
- **The Saving Function**
- **The Investment Function**

In this section, we endeavor to present some simple models of income determination in an Islamic economy. The term Islamic economy refers to the theoretical construct of a society in which the laws of Islamic *Shariah* are enforced. Thus, Islamic economy is distinguishable from other types of economies on the basis of its special social and institutional framework which may include inter alia the imposition of *Zakah*, the abolition of interest and presence of *Mudarabah*. Any economic model of an Islamic economy must take these special institutions into account before proceeding to the analysis of any economic process. The assumptions on which the models of income determination presented in study are based may be spelled out as this follows:

1. The economy is largely managed by private enterprise.
2. The institution of interest stands completely abolished by law.
3. The financial transactions are put into effect through *Mudarabah* agreements.
4. *Zakah* is imposed on all *zakatable* assets above the level of *Nisab* owned by all adults and sane Muslims as per rules prescribed in the Islamic jurisprudence.
5. The government adopts a permissive cum regulatory function. It intervenes in the economy to meet the cases of market failures makes provision for different types of social and public goods and is responsible for attaining overall social and economic welfare of the people in general.
6. A closed economy is assumed as trade linkages and payment problems are not considered.

(a) Simple Income Determination with Autonomous Investment

Let

- Y = total income of the economy
- C = final consumption spending by all groups in society
- Z = expenditure on *Zakah*
- E = private expenditure for the sake of God
- I = investment expenditure

It is assumed for the time being that investment expenditure is autonomous i.e., determined outside the system. Thus, we have

$$I = I^o \quad (1)$$

Where I^o symbolizes the autonomous investment. It is also assumed for the time being that government does not impose any tax other than *Zakah* and does not indulge in any spending activity other than disbursing the collected *Zakah* proceeds under the prescribed rules.

Since the total income and total expenditure of an economy are equal by definition. We have the following familiar identity:

$$Y = C + I \quad (2)$$

The final consumption expenditure of the whole society is viewed to be composed of consumption expenditures of *Zakah* payers and that of *Zakah* recipients.

$$C = C_1 + C_2 \quad (3)$$

Where

- C = aggregate consumption expenditure of all groups in the society.
- C_1 = consumption expenditure of *Zakah* payers.
- C_2 = consumption expenditure of *Zakah* and = *Zakah Infaq* recipients.

The aggregate consumption expenditure of *Zakah* payers is assumed to depend on their net income (disposable income) after they have paid out *Zakah* and *Infaq*.

$$C_1 = a + b [Y - Z - E] \quad (4)$$

The equation (4) is a linear consumption function with usual restriction $0 < b < 1$. The actual value of b (marginal propensity to consume) will depend upon the fact that how for Islamic injunctions are made operative. It must be kept in mind that Islam places a high value on moderation in consumption and there shall be a punitive tax on excessive savings in the sense that more amount of *Zakah* will have to be paid out of the accumulated saving if they exceed the *Nisab* limit.

The consumption expenditure of *Zakah* and *Infaq* recipients depends upon what they receive as *Zakah* and *Infaq*. This implies that *Zakah* recipients have no other source of income. This is a restrictive assumption but it is adopted for the sake of simplification. Nevertheless, this simplifying assumption may not be completely out of place, if we consider the contemporary reality of distribution of income in developing Muslim countries. The available evidence suggests that distribution of income is highly skewed i.e. the income accruing to the 'poorest of the poor' who will be entitled to get assistance from *Zakah* and *Infaq* funds is very low¹². Hence, for analytical purposes, it may not be unreasonable to assume that all income accrues to the *Zakah* payers only and *Zakah* cum *Infaq* payments constitute the only income of *Zakah* recipients. Under these assumptions, the consumption function of *Zakah* recipients may be specified as:

$$C_2 = Z + E \quad (5)$$

The equation (5) implies the assumption that *Zakah* and *Infaq* recipients spend their whole income upon consumption. In other words, it

assumes that marginal propensity to consume of *Zakah* recipients equals unity.

In an Islamic economy, *Zakah* would be imposed on all adult and sane Muslims who have wealth beyond a minimum prescribed in *Fiqh*. *Zakah* is imposed on accumulated wealth which is a stock and upon agricultural produce which is a flow. Since *Zakah* will be paid out of current output, we may specify the following *Zakah* function:

$$Z = z Y \quad (6)$$

Where

$$\begin{aligned} Z &= \text{total } Zakah \text{ collected in the economy} \\ z &= \text{average and marginal rate of } Zakah \\ Y &= \text{income} \end{aligned}$$

It must be noted that z gives the average rate of *Zakah* with aggregate income as base. The rates of *Zakah* as prescribed in *Fiqh* are fixed with different forms of wealth as their base. In the above specification, the average rate of *Zakah* may be treated as variable while the actual rates may remain fixed at the traditional level as required by *Fiqh*. It shall be shown later that average rate of *Zakah* shall work as a “built-in stabilizer” in the Islamic economy.

Since Quran also places a high value on spending for the sake of God (*Infaq*) besides compulsory obligation of *Zakah*, it may be expected that in an Islamic economy, where motivational forces are governed by the Islamic values, there would be substantial amount of voluntary transfer of income to the poor and needy (*Sadaqa Nafila*). Such private spending for the sake of God may be summarized in the *Infaq* function given below:

$$E = \gamma Y \quad (7)$$

Where

E = aggregate private spending for the sake of God

γ = propensity to spend for the sake of y God

It is assumed that value of marginal propensity to spend for the sake of God is always positive but less than one.

The equilibrium level of income is obtained by solving the system of equations (1) to (7) simultaneously and is given below:*

$$Y = \frac{1}{(1-z-\gamma)(1-b)} (a+1^o) \quad (8)$$

This system of income determination shall be feasible if the following feasibility condition is met:

$$0 < (1-z-\gamma) \quad (1-b) < 1$$

This feasibility condition shall be met if the following necessary and sufficient conditions are fulfilled. Firstly, the numerical value of each of the propensities i.e. marginal propensity to consume, average rate of *Zakah* and marginal propensity to spend for the sake of God lies between zero and one. Symbolically,

$0 < b < 1$, $0 < z < 1$ and $0 < \gamma < 1$. It is assumed by construction that $0 < b < 1$. It may be argued that z and γ will also have numerical values within these limits. Note that *Zakah* and *Infaq* functions are linear

*The derivation of this result Is given in the Technical Appendix.

functions without intercept. Hence, their average and marginal forms are the same. Now, marginal (and average) rates of *Zakah* and *Infaq* will have a value equal to unity if all income is spent on these and zero if nothing is spent. Since, both of these situations are most unlikely in an Islamic economy, it is reasonable to expect that values of z and γ , like b , shall be greater than zero and less than unity. Secondly, the sufficient condition requires that $0 < z + \gamma < 1$ which means that sum of z and γ must be positive but less than unity. If $z + \gamma = 1$ the income would blow up out-of bounds. On the other hand the fulfillment of both the necessary and sufficient conditions would assure a finite level of income.

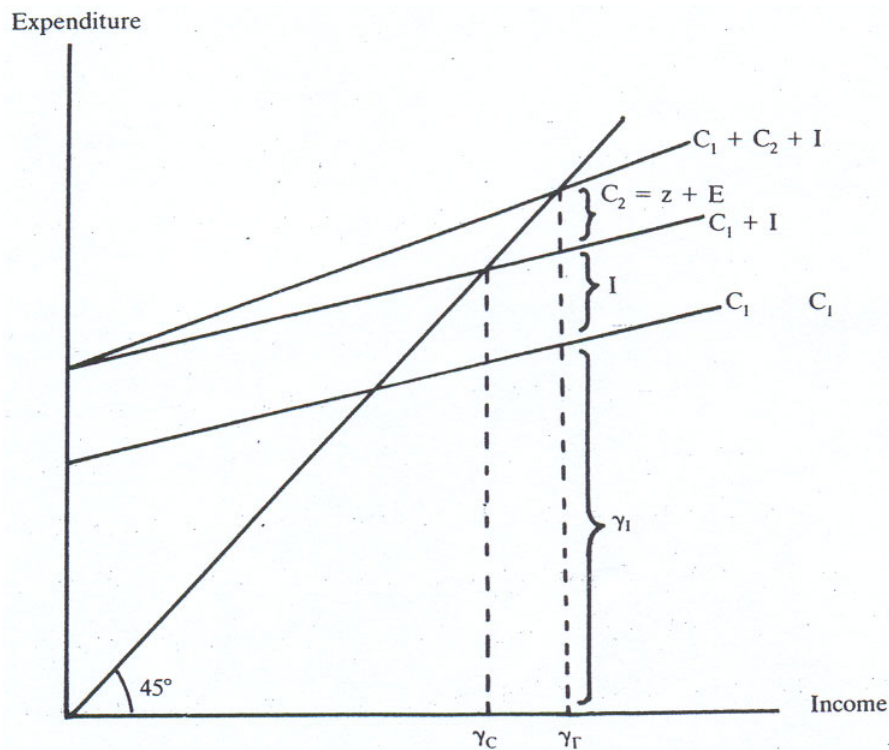


Fig. (1): Income Determination in the capitalist and Islamic economies.

The process of income determination in an Islamic economy could also be examined with the help of a diagram. Assuming a closed economy, aggregate expenditure has been measured on the vertical axis

and aggregate income along the horizontal axis in Fig. (1). The 45° line represents a suppressed aggregate supply function in the sense that income and expenditure are always equal along this line. The C_1 line is the consumption function. The slope of this line shows marginal propensity to consume. The $C_1 + I$ line shows aggregate expenditure which is composed of expenditure on consumption and investment. The vertical distance between C_1 and $C_1 + I$ line gives the amount of investment which is invariant with the level of income because all investment is assumed to be autonomous. The slope of $C_1 + I$ line is exactly the same as the slope of C_1 line and that is why $C_1 + I$ line is exactly parallel to the C_1 line.

The diagram shows the process of income determination in the capitalist and Islamic economies. Since there is no z and E in a capitalist economy C_1 shows the aggregate consumption expenditure of the capitalist economy. The equilibrium income is determined by the intersection of the aggregate demand line ($C_1 + I$) and the aggregate supply line (45° line). This has been shown in the figure as Y_c which is the equilibrium come of income of the capitalist economy.

We can now introduce some distinguishing features of an Islamic economy i.e. the institution of *Zakah* and expenditure incurred for the sake of God. The line $C_1 + C_2 + I$ represents the aggregate expenditure of the Islamic economy where C_1 is the consumption expenditure of *Zakah* payers, C_2 is the consumption expenditure of *Zakah* and *Infaq* recipients which is exactly equal to the sum of *Zakah* (Z) and *Infaq* (E) payments received, and I is the autonomous investment as before. The slope of this line is a little higher than the slope of $C_1 + I$ line. In fact, the slope of this line is $b + z + \gamma$ which is higher by $z + \gamma$. This is so because *Zakah* and *Infaq* functions have been added to the consumption function.

The equilibrium level of income in Islamic economy takes place where aggregate demand line $C_1 + C_2 + I$ intersects the 45° line. In the figure it has been shown as Y_1 . Also note that $C_1 + C_2 + I$ originates where $C_1 + I$ line has its vertical intercepts. This indicates same amount of autonomous investment. But, later on the line adopts an upward rising slope. This is because of incorporation of *Zakah* and *Infaq* functions, both of which are positive functions of income. This is why the gap between the lines $C_1 + C_2 + I$ and $C_1 + I$ keeps on increasing as the level of income rises.

Now for the sake of comparison only, let us assume that level of consumption expenditure (C_1) is the same in the Islamic economy as in the capitalist economy. Under this restrictive assumption, it can be shown that Islamic economy is capable of generating more income than the capitalist economy because spending streams are strengthened through Z and E . Thus aggregate demand is stimulated and given aggregate supply, shall lead to an increase in income.

There is another possibility that consumption in Islamic economy may be less than the consumption expenditure in the capitalist economy. For example, let C_c be the consumption expenditure in the capitalist economy and C_1 be the consumption expenditure in the Islamic economy with the condition that

$$C_1 < C_c$$

$$\text{But if } C_c - C_1 = Z + E$$

i.e. if the magnitude by which the personal consumption expenditure of *Zakah* payers in Islamic economy falls short of the personal consumption expenditure in the capitalist economy equals the amount spent on *Zakah* and *Infaq* then, other things being equal, the Islamic economy would still be capable of generating as much of income, if not more, as the capitalist economy.

(b) Multiplier

The theory of multiplier suggests that any given increase in investment or government expenditure leads to a much larger increase in income. This is so because of induced rounds of consumption expenditure caused by an original increase in income. It has been observed above that Islamic economy, given the same values for the common parameters, generates more income than the capitalist economy. The reason for this is that multiplier is stronger in the Islamic economy. Let K^* be multiplier of the Islamic economy and K be multiplier for the capitalist economy.

$$K^* = \frac{1}{(1-z-\gamma)(1-b)} \quad (9)$$

The K^* given in (9) has been derived from equation (3).

In a capitalist economy the institutions of *Zakah* and spending for the sake of God do not exist. Hence z and γ will assume the values equal to zero. Thus multiplier in a capitalist derived from economy is

$$K = \frac{1}{(1-b)} \quad (10)$$

It is evident that

$$K^* > K \text{ as } (1-z-\gamma)(1-b) < (1-b)$$

Probably, a numerical example might also help at this stage. Let $b = 0.8$ for both type of economies, $z = 0.1$ and $\gamma = 0.05$, then

$$K = \frac{1}{(1-b)} = \frac{1}{0.2} = 5$$

But

$$K^* = \frac{1}{(1-0.1-0.05)(1-0.8)} = 5.88$$

Thus, it is established that multiplier is stronger in the Islamic economy. The reason for this is clear: Islamic economy places a high value on spending, particularly spending for the sake of God. Spending streams are strengthened and saving which is a form of leakage from income-expenditure flow is depressed. Thus, *Zakah* and spending for the sake of God, both tend to increase the level of aggregate demand. On the other hand, in the capitalist economy saving is comparatively higher. This depresses the level of aggregate demand and leads to lower magnitude of multiplier and ultimately to lower levels of income.

(c) The Tax Function

In the classical Islamic period the major sources of revenue were the following: (1) *Zakah* (poor tax) (2) *Ushr* (tax on agricultural produce) (3) *Kharaj* (Land tax) (4) *Jizya* (Poll tax) (5) *Sadaqa* (Alms) (6) *Fay* (7) *Khums* (one fifth share of the booty) (8) *Ijshoor* (Custom duty) (9) *Kerael Arz* (Land revenue of state land). It is just possible that in a modern state, these sources of revenue, which were sufficient in classical period, may not be sufficient. In fact, many of mentioned above items have already become inoperative in many contemporary Muslim countries. Hence, the query: Is it permitted by the Islamic law (*Shariah*) to impose taxes other than those listed above?

The available evidence indicates that Islamic law has kept provision for further taxation if the need be. It is reported in *Tirmizi* that:

Fatima Bint Qais reports that the Messenger of God said, "There are rights in property other than *Zakah*"

Then he recited the following verse of Quran,¹³

“It is not righteousness
That ye turn your faces
Towards East or West;
But it is righteousness

To believe in God,
And the Last Day,
And the Angles,
And the Book,
And the Messengers;
To spend of your substance
out of love for Him
For your kin,
For orphans,
For the needy,
For the wayfarer,
For those who ask,
And for the ransom of slaves;
To be steadfast in prayers;
And practice regular charity;
To fulfill the contracts,
Which ye have made.

(11 : 177)

So the argument can be built on the basis of Quranic injunctions as well as on the basis of *Sunnah*. Firstly, enumeration of heads of expenditure upon whom one is asked to spend has preceded the mention of *Zakah*. Thus, it can be deduced that payment of *Zakah* does not preempt all these social duties – to take care of kin, orphans, needy, wayfarer etc. So it is established that there is a right of all these persons in the wealth. 'Secondly, the Prophet has been reported to affirm this right. However, Ibn Maja, quoting the same source (Fatima Bint Qais) reports this tradition in the following words:

"There is no right in the property other than
Zakah." ¹⁴

which is in complete contradiction of *Tirmizi* tradition. However, experts regard the *Ibn-Maja* tradition as doubtful. Some other experts do not doubt the authenticity of either statement and argue that *Tirmizi* tradition will be operative only in emergency conditions while *Ibn-Maja* tradition will hold in ordinary circumstances¹⁵. *Ibn-Maja* has stated another tradition which says that *Zakah* preempts all other rights in the wealth.

“Abu Hurayra reports:”when you have paid *Zakah* out of your wealth, you have done your duty.”¹⁶

On the other hand, Ibn Hazm writes:

“It is ordained upon the wealthy of each city to take care of the poor and needy. If the amount of *Zakah* and *Fay* is not sufficient for this, then Sultan (or ruler) may compel them to provide necessary food, necessary clothing according to season and necessary shelter to the needy and poor.”¹⁷

In the light of above evidence, it seems reasonable to infer the following principles:

- (1) In case, there is an emergency or if the normal sources of revenue of the government (*Zakah* and *Fay*) do not suffice, and because of paucity of resources the government is not in a position to perform the duties assigned to it by the *Shariah*; then it is permissible for the government to impose taxes other than *Zakah*.
- (2) Such new taxes shall be imposed only upon the wealthy persons who could pay them i.e. ability to pay shall be the major criterion in imposing these taxes.
- (3) These taxes would be imposed for specific purposes such as defence or taking care of the poor and needy etc. It is not

permissible by *Shariah* for the ruler to impose taxes to finance their own luxuries and conspicuous consumption because it may come under the purview of *Zulm* (injustice).

Thus, some taxes may be imposed by the government other than *Zakah*. Since, all taxes are ultimately paid out of income, let us assume that there is a tax which is a linear function of income, given by the following equation.

$$T = t Y \quad (11)$$

which specifies a proportional and linear tax function with t as its slope.

The complete model of Islamic economy incorporating income tax function and government expenditure is given by the following set of equations:

$$Y = C + I + G \quad (12)$$

$$I = I^o \quad (13)$$

$$G = G^o \quad (14)$$

$$C = C_1 + C_2 \quad (15)$$

$$C_1 = a + b + (Y_d - Z - E) \quad (16)$$

$$C_2 = Z + E \quad (17)$$

$$Y_d = Y - T \quad (18)$$

$$T = t Y \quad (19)$$

$$Z = z Y \quad (20)$$

$$E = \gamma Y \quad (21)$$

The equation (12) is the definition of aggregate demand as before. The equations (13) and (14) represent autonomously given investment and government expenditure respectively. The equation (15) decomposes the aggregate consumption expenditure into two parts; C_1 represents the consumption expenditure of *Zakah* payers and C_2 represents the consumption expenditure of *Zakah* recipients. The equation (16) shows that consumption expenditure of *Zakah* payers is a linear function of their

net income. The net income may be defined as that part of disposable income (Y_d) which is left after paying *Zakah* and spending for the sake of God. The equation (17) shows that consumption expenditure of *Zakah* and *Infaq* recipients equals the amount which they receive as *Zakah* and *Infaq*. Thus, the marginal propensity to consume of *Zakah* and *Infaq* recipient is assumed to be unity. The equation (18) defines disposable income as the difference between total income and total taxes. Equation (19) is the same as equation (11) describing the *Zakah* and *Infaq* functions respectively.

The model assumes that tile levels of *Zakah* and *Infaq* spendings are decided before the determination of taxes. Thus, *Zakah* and *Infaq* both are made a function of level of income before tax while consumption of *Zakah* payers is made a function of income after taxes, *Zakah* and *Infaq*. This assumption seems to be realistic as it would be in order of things for the consumers of Islamic economy to meet their moral and religious commitments to God before turning to their own needs.

The solution of the system could be obtained as follows:

Substituting equations (18) through (21) into equation (16) we get

$$C_1 = a + b [Y - tY - (zy + \gamma Y)] \quad (22)$$

Substitution of equations (22), (17), (15), (14) and (13) into equation (12) yields.

$$Y = a + b [Y - tY - (zy + \gamma y)] + zY + \gamma Y + I^o + G^o \quad (23)$$

which after simplification and solving for Y gives*

$$Y = \frac{1}{1 - b(1 - t) - (1 - b)(z + \gamma)} [a + I^o + G^o] \quad (24)$$

The equation (24) gives equilibrium level of income. Since all the parameters are assumed to be known and the levels of I^o and G^o are given exogenously, the solution is complete and determinate.

The multiplier in this case would work out to be:

$$K^{**} = \frac{1}{1-b(1-t) - (1-b)(z+\gamma)} \quad (25)$$

which is clearly smaller than earlier multiplier K^* . $K^{**} < K^*$ as

$$\frac{1}{1-b(1-t) - (1-b)(z+\gamma)} < \frac{1}{(1-z-\gamma) - (1-b)}$$

because $1-b(1-t) - (1-b)(z+\gamma) > (1-z-\gamma)(1-b)$.

Thus incorporating income taxation would reduce the vitality of multiplier and dampen aggregate demand a little. However, in comparison to the capitalist economy, the new multiplier of Islamic economy would still be larger. The new income tax multiplier for capital economy could be worked out if we put $z = 0$ and $\gamma = 0$ into equation (25).

Thus

$$K' = \frac{1}{1-b(1-t)}$$

is the new income tax multiplier for the capitalist economy.

It is evident that

$$K^{**} = \frac{1}{1-b(1-t) - (1-b)(z+\gamma)} > K' = \frac{1}{1-b(1-t)}$$

as $1-b(1-t) - (1-b)(z+\gamma) < 1-b(1-t)$

*For derivation see Technical Appendix.

Similarly, tax rate multiplier could also be worked out by taking the partial derivative of the equation (24) with respect to t .

(d) The Saving Function

So far we have worked with the consumption function. Alternatively, one could work with the saving function. For the sake of simplicity, it has been assumed here that there is no taxation and public expenditure other than *Zakah* and all investment expenditure is given autonomously. The income determination model would now constitute of the following equations:

$$Y = C + I \quad (26)$$

$$Y = C + S \quad (27)$$

$$C = C_1 + C_2 \quad (28)$$

$$C_1 = a + b + [Y - Z - E] \quad (29)$$

$$C_2 = Z + E \quad (30)$$

$$S = I \quad (31)$$

The equation (26) gives the demand side and equation (27) the supply side of income determination. The equation (28) gives components of aggregate consumption of the society. Equations (29) and (30) describe the consumption function of *Zakah* payers and *Zakah* recipients which have been introduced earlier. Equation (31) has been obtained by equating the right-hand side of the first two equations and represents an equilibrium condition i.e. equilibrium level of income is determined by the equality ex-ante of saving and ex-ante investment.

The aggregate saving function of an Islamic economy may be defined as

$$S = Y - C_1 - C_2 \quad (32)$$

or

$$S = Y - C_1 - Z - E \quad (33)$$

Since Z , E and C_1 are all functions of income, saving could also be represented as a function of income:

$$S(Y) = Y - C_1(Y) - Z(Y) - E(Y) \quad (34)$$

The saving function derived from consumption *Zakah* and *Infaq* functions, used earlier, may be written as

$$S = -a + (1 - z - \gamma)(1 - b)Y$$

Since it is assumed that $I = I^o$, equating equation (34) with I^o and solving for Y yields equilibrium level of income.

$$-a + (1 - z - \gamma)(1 - b)Y = I^o$$

$$Y = \frac{1}{(1 - z - \gamma)(1 - b)} (a + I^o) \quad (35)$$

which is the same as obtained in equation (8).

Saving function could also be depicted through diagram.

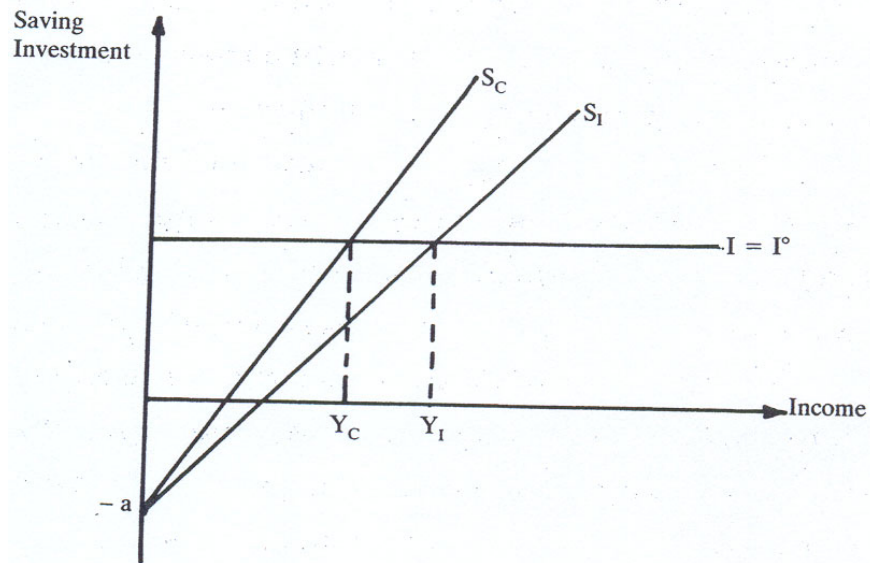


Fig. (2): Income Determination Through Saving and Investment in Capitalist and Islamic Economies.

In fig (2) income has been measured on the horizontal axis while the vertical axis shows saving and investment. The level of autonomous investment I^0 has been shown by a line parallel to the horizontal axis. The line S_c represents the saving function of the capitalist economy with slope $(1 - b)$. The equilibrium level of income in the capitalist economy is Y_c . The saving function of the Islamic economy has been represented by the S_I whose slope is $(1 - z - \gamma)(1 - b)$. It is evident that slope of saving function in Islamic economy is less than the slope of its counterpart in the capitalist economy. The equilibrium level of income in Islamic economy is Y_I which is greater than Y_C . This is the same result which was obtained earlier in fig (1) using consumption function.

Since the slope of saving function in Islamic economy is less than the slope of saving in the capitalist economy, the amount of income saved at the same level of income will be less in Islamic economy in comparison to capitalist economy. It may be apprehended that there may be some dampening effect on investment, in the long run because of low level of savings. However, any such fear shall be unfounded as there is a punitive tax in the form of *Zakah* upon accumulated savings. If savings are not invested, the *Zakah* will have to be continuously paid out of the accumulated savings. Thus savings will keep on depleting infinitely. Because of this, economic rationality would require that whatever savings are available, must be invested immediately in full so that *Zakah* could be paid out of growth. Thus, the utilization of saving will be higher in Islamic economy compared to the capitalist economy.

(e) The Investment Function

So far we have assumed that all investment is autonomous and given exogenously. Let us now relax this assumption and investigate the investment behaviour of firms in Islamic economy. In this connection, it may be mentioned at the outset that we are at loss compared to the economic theorist of capitalist economy who has the actual business

behaviour of firms as his guide while he theorizes. No such guide is available to the theorist of Islamic economy. He will have to rely upon his best judgment, intuition and imagination. Therefore, whatever deductions we make here must be regarded as purely conjectural.

The investment in a capitalist economy is made a function of interest rate. In a more fundamental way, investment is really a function of internal rate of return for which interest rate is used as a proxy. Although making interest rate an argument of the investment function serves as a bridge between the real sector and the monetary sector, the responsiveness of investment to interest rate has been always looked upon with suspicion¹⁸. Moreover, it does not describe the reality of modern business practices either. In modern times the corporate investment has the following major sources of finance (i) retained earnings (ii) share capital or equity capital and (iii) borrowed funds.

Since borrowed funds are only a small part of total investment, variations in interest rate are not expected to influence the investment activity to any great extent. This is one of the reasons that monetary policy in the capitalist countries fails to stimulate investment demand and the government of these countries have to resort to more direct methods to increase aggregate demand.

It seems that profitability is a much more powerful explanatory variable in comparison to interest rate. In an Islamic economy, the investment activity shall be governed mainly by the profitability.

The financial market shall be organized on the basis of *Mudarabah*. The firms will get their finance on profit sharing basis either from the bank or from the general public. In case of banks and other financial intermediaries, there will be a two tier relationship between the depositors, banks, and business firms. There will be a *Mudarabah* agreement between the bank and the depositor on the one tier and

another agreement between bank and business firms on the other tier. Let us assume that the rate of profit sharing between the bank and depositor is 80% and 20% i.e. whatever profits the bank makes by investing the depositor's money, it will keep 80% of the profits and will pay 20% to the depositor. Let us also assume that the ratio of profit sharing between the business firm and the bank is 60% and 40%. If the firm makes 100 units of money as profits, it shall be distributed in the following manner:

Business firm	60%
Bank	32%
Depositor	8%
Total	100%

On the other hand, the business firm may invite some equity capital on the basis of *Mudarabah* from the general public. Let us say that the terms of profit-sharing offered by the business firms for direct equity participation are 70:30 percent. Under these circumstances it would be profitable for the individual to invest in the equity capital directly than investing it through the bank. Since a competitive has also been assumed economy there will be a large number of banks and business firms bidding and competing for scarce investible resources. In technical terms a process of atonement will follow. Thus, it is expected that an equilibrium profit sharing ratio will be established which shall clear the demand for and supply of investible resources. The demand for investible resources for a firm will depend upon the size of firm, its level of output, level of retained profits, ratio of profit sharing on external funds and the rate on total capital.

$$I_j = f(Y_j, P_{ij}, \mu_j) \quad (36)$$

Where

- I_j = demand for investment through external funds of the firm j.
- Y_j = output of the firm j, a proxy variable measuring size of the firm.
- P_{rj} = level of retained profit by the firm j
- R_j = return on investment made by the firm j
- μ_j = proportion of profit on external funds to be paid by the firm j.

We must note the following properties of the investment demand function specified above.

- (i) $\partial I_j / \partial Y_j > 0$ the demand for investible resources from external sources increases as output expands or size of the firm increases.
- (ii) $\partial I_j / \partial P_{rj} < 0$ the demand for investment from external sources decreases if the level of retained profit is increased.
- (iii) $\partial I_j / \partial \mu_j < 0$ the demand for investment from external sources decreases if the share of profit going to external resources increases.
- (iv) $\partial I_j / \partial R_j > 0$ the demand for investible resources is positively related with the rate of return.

Aggregating the above function over the firms and assuming that level of retained profit is zero and the rate of return is the same for all firms, the following aggregate investment demand function is obtained.

$$I = f(Y, \mu) \quad (37)$$

where

$$\frac{\partial I}{\partial Y} > 0 \text{ and } \frac{\partial I}{\partial \mu} < 0$$

The relationship between I and at a given level of output has been shown in fig (3). Basically, it is a non-linear relationship as the investment demand curve becomes a horizontal asymptote at lower value

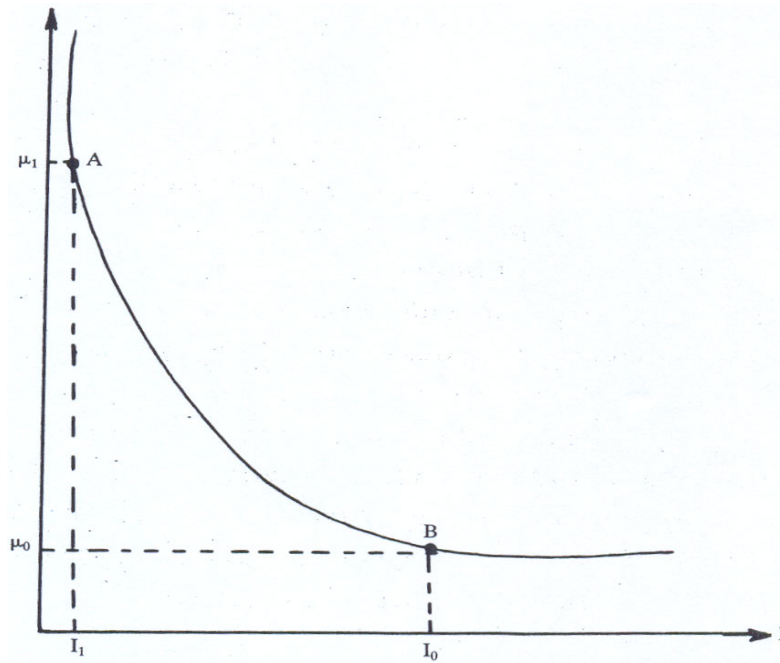


Fig. (3): Investment Demand Function for Islamic Economy.

of μ . The diagram shows that profit-sharing-ratio elasticity of demand for investment function becomes infinite at profit-sharing ratio approaches a minimum μ_0 . This means that demand for investible resources from external sources becomes very large if the share of profit to be paid out is too low. Similarly, the investment demand function will have a vertical asymptote at higher values of μ . If the firm will have to pay an unusually higher proportion of its profits to external funds, it shall demand less and less of those funds. Therefore, at higher values of μ , the profit-sharing-ratio elasticity of investment demand function shall tend to be close to zero. These two extremes merely indicate a theoretical possibility. In practice, the equilibrium profit-sharing ratio shall be such that investment demand function may not approach either of the extremes. In fact the operational and relevant portion of the investment demand function may be confined to be the segment in which the absolute value

of profit-sharing ratio elasticity is $\left(\frac{\partial I}{\partial \mu}, \frac{\mu}{I} > 0 \right)$. This segment in fig (3) has been identified by the arc AB.

Similarly, the supply function of investment resources (the saving function) will have to be modified. Now we shall write the aggregate saving function as

$$S = g(Y, \mu) \quad (38)$$

where

$$\frac{\partial S}{\partial Y} > 0 \quad \frac{\partial S}{\partial \mu} > 0$$

For a given level of income, the saving function can be depicted in the following diagram:

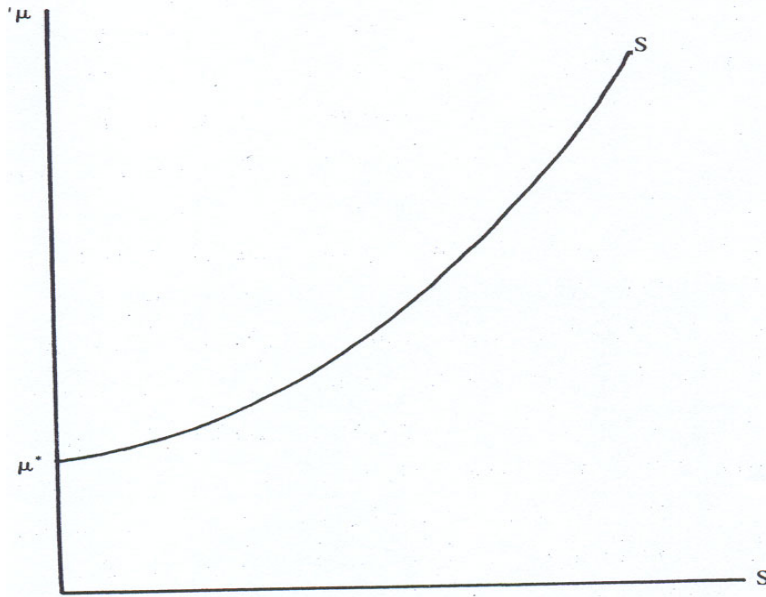


Fig. (4): Modified Aggregate Saving Function of Islamic Economy.

In figure (4), vertical axis measures μ , the share of profit paid (received) on external funds. The horizontal axis shows the amount of saving. The curve μS shows different amounts of aggregate saving available at different rates of μ . The saving function has a positive slope and a positive intercept. It is highly likely that saving supplied for investment shall turn to zero at some positive which is very low. In fact, it may have a negative vertical intercept i.e. at some positive saving may turn negative. However, for our purposes, a positive vertical intercept is enough.

The equality of saving and investment has been shown in figure (5). The amount of saving and investment are measured on the horizontal axis. The vertical axis tile shows the share of profit paid to external funds received by the savers. μ' is the minimum profit-sharing ratio at which savers would like to invest. So the beginning point of saving function is μ' . If μ is below μ' and approaches μ_0 the demand for investment be comes perfectly elastic.

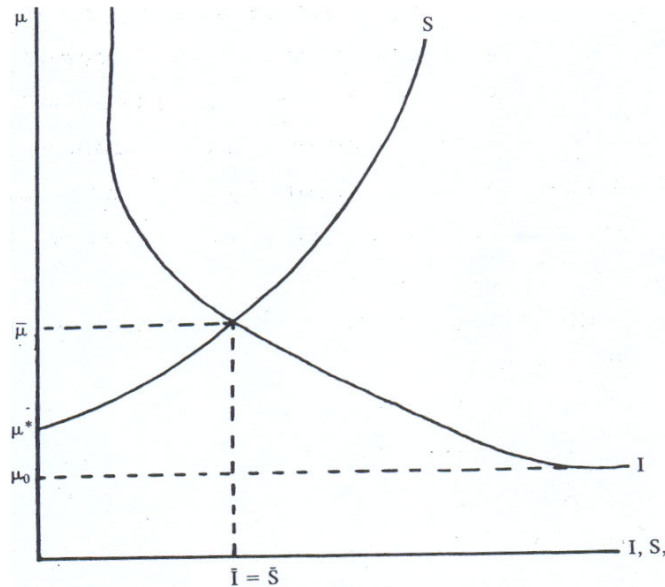


Fig. (5): Equality of Saving and Investment in Islamic Economy.

The equilibrium profit sharing ratio is established at $\bar{\mu}$ where ex-ante demand for investment coincides with of ex-ante supply savings. If $\mu > \bar{\mu}$ ex-ante supply of saving will exceed ex-ante demand for investment, and income will decline and μ will also come down. If $\mu < \bar{\mu}$ just the reverse will happen. Income will rise and consequently μ will tend to increase. Thus $\bar{\mu}$ is the only stable equilibrium position,

Thus final consists the of model our following equations:

$$I = f(Y, \mu) \quad (39)$$

$$S = g(Y, \mu) \quad (40)$$

$$S = I \quad (41)$$

We have four variables, S, I, Y, and μ ; but only three equations. So the model seems to be indeterminate at the first glance. But it is not. We have to get exogenous information at least for one variable, Y or μ . If μ is given, Y is determinate as there are now three unknowns. Alternatively, if Y is given μ can be determined.

Once the level of income is determined the other two equations of the model

$$Z = z Y \quad (42)$$

$$E = \gamma Y \quad (43)$$

can also be solved as Y is the only unknown in these equations.

IV

Conclusion

In this paper we have tried to develop a theoretical model of income determination for Islamic economy. It was argued in the beginning that problems of economic policy can best be analysed and understood within an integrated framework of income determination. With this in view, a brief survey of non-Islamic capitalist economies was made and it was shown that basically the differences in the models of income determination and different perspectives of macro-economic functioning are responsible for the conflicting views about economic policy.

The last section was devoted to the construction of a model of income determination in an Islamic economy. It is necessary to repeat here that it is 'a model' and not 'the model'. It is possible that more than one model could be worked out with the same institutional constraints. Basically, three variants of the model were worked out:

- (1) The first model is based on the assumption that all investment is autonomous and no tax is imposed. The *Zakah* and *Infaq* functions were worked out and incorporated in the model. It was shown through the analysis that Islamic economy with and built-in systems of *Zakah* and *Infaq* would be capable of generating and will generate more aggregate demand than its capitalist counterpart. Thus, Islamic economy would create more income than the for capitalist economy if same values common parameters assumed for are both systems.
- (2) An income tax function was incorporated in the model it and shown that was though multipleir gets reduced than before, but it is still higher in comparison to the capitalist economy.
- (3) The assumption of exogenous investment was dropped ultimately and both the saving and investment functions were reformulated. It was shown that equality between saving ex-ante saving and

investment could also be established in an interest free economy where the institution of interest has been substituted by profit-sharing.

The above models have been worked out in Keynesian tradition. It is assumed that aggregate supply is given and a case of under-employment equilibrium of economy is worked out. In Keynesian economics, the basic barrier to full employment is the demand barrier. If this is removed and aggregate demand could be increased, full employment becomes attainable as idle resources are available.

In the end, we must state some limitations of the models presented here. Firstly, these are essentially short run models. They assume that excess capacity exists in the economy. Given these assumptions, it was shown that *Zakah* and *Infaq* would serve as built-in-stabilizers and level of aggregate demand in Islamic economy would be greater than the capitalist economy.

Secondly, the models assume a constant marginal propensity to save for the capitalist and Islamic economies. Though we have Quranic injunctions about moderation in consumption, it can not be established a priori that marginal propensity to consume in Islamic economy would be necessarily less than its counterpart in the capitalist economy. Therefore, it was decided to work with the safer assumption that both are equal.

Thirdly, the models do not pertain to the less developed countries though most of them are Muslim countries. It is well established in the economic literature that Keynesian economics is not directly applicable to less developed countries. Significant modifications in the model will have to be carried out before extending it to the case of less developed countries. In fact, the main problem of less developed countries is their economic development and modernization and not stabilization. Hence it

was though that Islamic model of economic development is something which must be dealt with separately.

Fourthly, we do not make any claims for the existence or attainment of full employment. The model which have been developed here just show how equilibrium level of income is determined. It is not known whether it is full employment. We shall have to take account of labour and money markets and make the Islamic injunctions operative in these markets in order to work out the full employment implications of the present model. It is not being attempted here due to shortage of time and space. Nevertheless, it is one important dimension for further extensions of the model.

Lastly, the models presented here are static and we have also touched upon comparative statistics in formulation of multiplier. The dynamic and long run formulations may be other important areas of extension of the basic model.

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Technical Appendix

I. Derivation of Result Given in Equation (8)

$$Y = C + I \quad (1)$$

$$C = C_1 + C_2 \quad (2)$$

$$C_1 = a + b [Y - z - E] \quad (3)$$

$$C_2 = Z + E \quad (4)$$

$$Z = zY \quad (5)$$

$$E = \gamma Y \quad (6)$$

Substituting (5) and (6) into

$$\begin{aligned} C_1 &= a + b [Y - zy - \gamma E] \\ &= a + by - bzY - b\gamma Y \\ C_1 &= a + bY (1 - z - \gamma) \end{aligned} \quad (7)$$

Substituting (5) and (6) into equation (2) we get

$$C_2 = zY + \gamma Y \quad (8)$$

Substituting (7) and (8) into equation (1) we get

$$C = a + bY (1 - z - \gamma) + zY + \gamma Y \quad (9)$$

Substituting (9) into (1) and putting $I = I^o$ we get

$$\begin{aligned} Y &= a + bY (1 - z - \gamma) + zY + \gamma Y + I^o \\ \text{or } Y - zY - \gamma Y - bY (1 - z - \gamma) &= a + I^o \\ \text{or } Y (1 - z - \gamma) - bY (1 - z - \gamma) &= a + I^o \end{aligned}$$

By taking $Y (1 - z - \gamma)$ common from L. H. S.

$$Y (1 - z - \gamma) (1 - b) = a + I^o$$

Hence,

$$Y = \frac{1}{(1 - z - \gamma) (1 - b)} (a + I^o)$$

II. Derivation of Result Given in Equation (24)

The equation (22) given in the text is

$$C_1 = a + b [Y - ty - zY + \gamma Y]$$

$$\text{or } C_1 = a + bY - btY - bzY - b\gamma Y$$

$$\text{Since } Y = C_1 + C_2 + I^o + G^o$$

$$\text{and } C_2 = zY + \gamma Y$$

We have

$$Y = a + bY - btY - bzY + I^o + G^o + zY + \gamma Y$$

$$\text{or } Y = bY + btY + bzY + b\gamma Y - zY - \gamma Y = a + I^o + G^o$$

$$\text{or } Y = bY + btY - zY + bzY - \gamma Y + b\gamma Y = a + I^o + G^o$$

$$\text{or } Y = bY + btY - zY(1-b) - \gamma Y(1-b) = a + I^o + G^o$$

$$\text{or } Y = bY + btY - (1-b)(zY - \gamma Y) = a + I^o + G^o$$

$$\text{or } Y = bY - (1-t) - (1-b)(z - \gamma)Y = a + I^o + G^o$$

$$\text{or } Y = [1 - b(1-t) - (1-b)(z - \gamma)] = a + I^o + G^o$$

$$Y = \frac{1}{1 - b(1-t) - (1-b)(z - \gamma)} a + I^o + G^o$$

III. Derivation of Saving Function Equation (34)

$$S = Y - C_1 - C_2$$

$$S = Y - a - bY(1 - z - \gamma)$$

Rearrangement yields

$$S = Y - zY - \gamma Y - bY(1 - z - \gamma) - a$$

$$S = Y(1 - z - \gamma) - bY(1 - z - \gamma) - a$$

$$S = Y(1 - z - \gamma) - (1 - b)Y - a$$

Which can be rewritten as

$$S = -a + (1 - z - \gamma) - (1 - b)Y$$

Income Determination in an Islamic Economy

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Abstract

This study develops a macro-model of an interest free Islamic economy incorporating *Zakah*. Assuming a higher marginal propensity to consume of the low income groups who receive *Zakah* transfers from the higher income groups the model establishes a higher level of income for given values of the other parameters. The model also demonstrates that an investment function based on profit-sharing ratio in place of the rate of interest generates a stable equilibrium between savings and investment. Before explaining income determination in an Islamic economy the different systems of income determination in a capitalist economy are also reviewed.

تحديد المستوى التوازني للدخل في اقتصاد إسلامي

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جامعة مليّة إسلامية - نيودلهي ١١٠٠٢٥ - الهند

ملخص

هذه الدراسة تُطوّر نموذجاً كلياً مشتملاً على الزكاة في نظام اقتصادي إسلامي لاربوي . وعلى فرض أن الميل الحدي للاستهلاك عند الفئات ذات الدخل المنخفض التي تستحق الزكاة ، هو أكبر من الميل الحدي للاستهلاك عند الفئات ذات الدخل المرتفع . ويبرهن النموذج على أن المستوى التوازني للدخل سيكون أعلى إذا أعطيت العملات الأخرى في النموذج قيماً معينة . كما يظهر النموذج أن دالة الاستثمار المبنية على « نسبة المشاركة في الربح » (وليس على معدل الفائدة) تولّد توازناً مستقراً بين الادخار والاستثمار . ويستعرض النموذج النظم المختلفة لتحديد المستوى التوازني للدخل في الاقتصاد الرأسمالي قبل أن يوضح القضية نفسها بالنسبة لاقتصاد إسلامي .