FISCAL POLICY IN AN ISLAMIC ECONOMY AND THE ROLE OF ZAKAT

Mohammed B. Yusoff
International Islamic University Malaysia

Abstract

This study incorporates Zakat into a simple macroeconomic model of an Islamic economy and analyzes the role of Zakat in the national income determination. The reduced form aggregate consumption function suggests that the determinants of consumption are: Zakat expenditure, taxes, income, and asset holdings of individuals. Zakat could be used as a counter-cyclical policy through the discretionary and non-discretionary fiscal policy. The discretionary fiscal policy is carried out by varying the disbursement of Zakat to the recipients. During the expansion phase of the business cycle the government reduces Zakat expenditure to close the inflationary gap. This action helps increase the Zakat surplus in the Baitul-Mal. Likewise the Zakat expenditure could be increased, by using the Zakat surplus accumulated during the boom periods, when the economy is in the downswing to spur aggregate spending and economic activities. Therefore government spending and taxation could complement Zakat as stabilization policy.

1. INTRODUCTION

An Islamic economy is one which has established an Islamic economic system based on the Al-Qur’an and Sunnah. The Islamic economic system recognizes the importance of ownership of resources, motivation, and decision making process. Islam allows private ownership and public ownership, but in the final analysis everything belongs to Allah. The wealth must be halal, devoid of riba, and when the wealth is above the nisab, the owners must pay Zakat. The basic motivation of an individual Muslim is to be successful in this world and hereafter. Islam recognizes the importance of profits as an objective of a Muslim entrepreneur to give him an incentive to work hard and be successful. Thus, a Muslim producer faces a constrained profit maximization not only by the resource constraints but also by the Islamic laws and the Islamic ethical values.

In the case of the privately owned resources the decision making process is based on the market forces or the price system, Islamic laws, and Islamic values. The prices will guide the decisions of the firms and consumers with regard to the allocation of resources. Higher prices for certain goods and services indicate that the ummah wants more of the resources allocated for the production of those goods and services. In the case of public ownership, the decision can also be based on the market forces but the major goal of public ownership is not making profits. The role of the Islamic State is to set rules and regulations and to establish institutions to govern the state in accordance to the Shari’ah and to safe-guard laws and order.
while the economic objectives of Islamic state include: to achieve high economic growth with full employment, price stability, a just distribution of income and wealth, and sustainable development.

The main aim of this study is to build a simple macroeconomic model which incorporates Zakat to analyze the impact of Zakat on the determination of equilibrium income and see how Zakat plays its role in the demand management policy to improve the economic performance of an Islamic economy. The paper begins with a brief discussion on the characteristics of an Islamic state, followed by a section on Zakat. The third section explains briefly about the concepts of national income accounting, followed by a detailed analysis on national income determination, the multipliers, and stabilization policy. The final section summarizes the findings of the study.

II. ZAKAT

Although Islam recognizes the importance of market or price system as a means of allocating resources, the market system by its nature, man-made, and therefore it will result in favor of the privileged people, the haves, and disfavor the have-nots. The more skillful and highly educated group will receive higher wages and salaries; people own properties receive high rental incomes; while those who have less education, less skills receive less income; those with no education, no skills receive much reduced income, and those who cannot participate in the market system will receive no income. The market system results in certain degree of inequality in the distribution of income and wealth. Toward this end, Islam has made the Zakat system as a mechanism of wealth distribution for an Islamic State. The Zakat, including Sadaqah, are considered as a social safety-net for an Islamic State.

In Islam all resources belong to Allah and the wealth is held by human beings only in trust. The third pillar of Islam is Zakat, which is an obligatory religious due, payable on various categories of assets either physical assets or financial assets, notably savings and financial investments, produce, inventory of goods, salable crops and cattle, and precious metals. Zakat transfers some of the income and wealth from the haves to the have-nots as the Zakat collection is disbursed to the various categories of people as specified by Islamic laws. The word Zakat is mentioned more than thirty times in the Al-Qur'an, usually along with Salah. Muslims are also encouraged to contribute the voluntary charity called Sadaqah. A generous person can pay more than the amount of Zakat, although the excess is treated and rewarded as voluntary charity, Sadaqah, which can be utilized to bridge the gap between the rich and the poor, and can also be used for financing useful projects for the betterment of the community.

The giving of Zakat is an act of sharing of wealth between the contributors with others who are less fortunate. The word Zakat means purification and growth as our assets are purified when a portion of it is set aside for those who are in need. In other words, Zakat purifies the assets of the contributor and his heart from selfishness and greed. At the same time, it also purifies the heart of the recipient
from envy and jealousy, hatred and uneasiness; and therefore Zakat fosters goodwill, brotherhood and warm wishes between the contributor and the recipients. As a Muslim pays Zakat he takes it as an investment to get rewards in hereafter and also to reduce the economic imbalanced and social injustice in the society. This trust must be discharged, as instructed by Allah, since a portion of our wealth legally belongs to other people and this portion must rightly be given out to them.

*Allah* says (*Surah Al-Taubah*: 103),

"Of their wealth, take alms so you may purify and sanctify them; and pray on their behalf. Verily thy prayers are a source of security for them; and *Allah* is one who hears and knows."

*Zakat* has a deep humanitarian and socio-political value; for example, it frees society from class welfare, from ill feelings and distrust and from corruption. Islam encourages private enterprises and recognizes property rights, but it does not tolerate selfishness and greed. Islam encourages moderation and always guides individuals to take positive and effective path between individual and society, between the citizen and the state, and between materialism and spiritualism.

According to Zarqa (1992), three of the major goals of the distributive justice in Islam are: guarantee of fulfillment of basic needs for all, reduction of inequalities in income and wealth, and purification of the donors inner self and their wealth. The basic issues of Islamic distributive justice of income and wealth among the individuals in the economy can be achieved through the *Zakat* system. In particular, the concept of personal distribution of income is important because it indicates how the total income is apportioned among the individual households in the economy. The patterns of personal income distribution affects the composition and amount of good and services produced. The more unequal the distribution of income the greater the demand for luxury goods and the producers allocate more resources toward the production of more of luxury goods in response to the market forces and as a result the production of basic goods and services may be neglected.

The personal distribution of income will also indicate the apportionment of national output into consumption goods and investment goods. An economy which has relatively larger size of investment goods in relation to consumption goods will attain higher economic growth over time. As saving is that part of output that is not consumed and therefore saving can be increased only at the expense of current level of consumption. Through saving, more resources are available to raise the level of production of investment goods to produce more consumption goods in the future. Thus, higher saving rates will promote higher investment and economic growth which in turn increase the *Zakat* collection and also reduces the number of eligible *Zakat* recipients.
Distribution of Zakat

The Holy Al-Qur'an (Surah Al-Taubah: 60) clearly spells out the recipients of Zakat:

"Alms are for the poor and the needy, and those employed to administer the funds; for those whose hearts have been (recently) reconciled (to the truth); for those whose in the bondage and in debt; in the cause of Allah; and for the wayfarer; (thus it is ) ordained by Allah, and Allah is full of knowledge and wisdom."

Thus Zakat is distributed among the 8 categories of people, namely: the poor, one who has neither material assets nor means of livelihood; the needy, one with insufficient means of livelihood to meet basic needs; Zakat administrator, one who is appointed to collect and administer Zakat. In order to accomplish a more efficient implementation of this Pillar of Islam, it will be necessary to appoint people in the community to administer the collecting and spending of Zakat fund. The Zakat administrators must take an accurate account of all transactions and they are to be paid fair wages from the Zakat fund itself, according to the services provided, as Allah has ordered in the Al-Qur'an. They should also offer assistance to help individuals do their Zakat accounting correctly. Next is new convert, one who has converted to Islam; slave, one person who wants to free himself from bondage or the shackles of slavery; debtor, individual who is in debt when he/she borrows money to buy basic needs consisting of halal expenditure; path of Allah, one who fights for the cause of Allah; and finally, a wayfarer, one who is stranded in a journey. A detailed discussion on Zakat in Malaysia given in Hassan (1987).

Government Spending, Taxes and Zakat

For analytical purposes, an economy can be classified into three major sectors: the household, businesses, and the government sectors. The households sector supplies the factor of production to the business and government sectors, receive income in return and then spend on goods and services. It is the major sector in terms of spending. Business firms employ labor and other factors of production to produce goods and services while the government sector collects Zakat and taxes from the household and business sectors and also allocates the budget for the various government expenditures. Muslim economists argue that if an Islamic State is insufficient of financial resources the State could establish a just tax system to collect taxes, Faridi (1997:667-68)\(^2\) and Kahf (1998:534-35)\(^3\). A just tax system should not burden the tax payers and therefore taxation should be based on the

\(^2\) He argues that Islamic fiscal theory does not preclude the use of modern techniques of raising revenue per se.

\(^3\) Kahf has noted that in a contemporary context, many Muslim scholars consider taxation as indispensable in many Muslim countries except those countries with huge natural resources and small population.
ability to pay principal⁴. In the context of Islam, the tax system has to follow the principles of Zakat system. Specifically, a tax must be imposed on the rich in accordance to their riches, direct taxation is preferred to indirect taxation, and tax exemption should always be provided. Therefore the major tax base should be the personal income tax and the corporate income tax, Kahf(1998:535).

Although the Zakat payment is a religious obligation, practically the payment of Zakat by individuals, in some Muslim countries, are individual choices in the sense that there has been no concerted effort by the authorities to enforce the payment of Zakat. Furthermore, the collection of Zakat is rather unorganized. The governments may have their agencies to collect Zakat but as far as an individual Muslim is concerned he can still fulfill his Zakat obligation by paying his Zakat due direct to the target groups; they consider this act as more rewarding and this point is very difficult to challenge. The Zakat collection is disbursed to the special people who are clearly stated in the Al-Quran and this act is a divine requirement and therefore Zakat is a special form of transfer payments.

The tax collection is used by the government to purchase goods and services such as military equipment; builds highways, schools, universities, hospitals, and pay salaries to the government servants. The government may also make disbursement to transfer the tax collection to the populace in the form of welfare payments to the less fortunate. Government purchases are exhaustive in the sense that they directly absorb or employ resources to produce goods and services. Transfer payments are, on the other hand, non-exhaustive as they do not employ resources and therefore do not directly contribute to the production of current output.

Government purchases and transfer payments have different impacts on the allocation of resources. Government spending results in reallocation of resources for the production of more public goods, while the government transfers will change the composition of private goods and services. Roughly speaking, if the government taxes RM500, then the tax payers’ expenditure would decrease by about the same amount. When the government uses this RM500 to purchase public goods, the government on behalf of the public is, in fact, substituting public goods for private goods.

Transfer payments, on the other hand, is quite different in the sense that it rearranges private consumption. The RM500 if left to the tax or Zakat payers, they might purchase more luxurious goods or services; but the RM500 given to the recipients of transfer payments will end up purchasing more basic necessities such as food, clothing, and low cost housing and hence alters the production of private goods toward the essential good sector which are probably mostly produced by the small and medium scale enterprises. Thus, the transfer payments could promote the

⁴ the ability to pay principal of taxation states that taxes should be paid by citizens who can most afford them regardless of any benefit they receive. It is based on the premise that taxes only reduce the consumption of luxuries by the rich but taxes on the lower income groups reduce their consumption of basic necessities.
growth of small and medium scale industries and generate more employment opportunities for the poorer groups.

**III. NATIONAL INCOME ACCOUNTING**

In order to assist our understanding on the process of the determination of national income, in this section, we briefly discuss the concepts of national income accounts which are constructed in such a way that the aggregate economic variables are useful for economic analysis. The most often used measure of aggregate economic activity is the gross domestic product (GDP) which is the market value of final *halal* goods and services produced within an Islamic State during a specific period of time. In our discussion, goods and services always refer to *halal* goods and *halal* services. The national income is measured in two ways: the product approach and the income approach. We shall explain both approaches as the concepts are utilized in the analysis of *Zakat* in relation to national income determination. To simplify the analysis we assume that the indirect taxes and depreciation are zero. These assumptions are important to ensure that the GDP is equal to the national income which will become more obvious later.

It is further assumed that the amount of *Zakat* disbursed to the recipients may be less or equal to the *Zakat* fund depending on the economic situations. During the expansion phase of the business cycle the *Zakat* collection may be more than the *Zakat* disbursement as more people are employed and there would be less eligible *Zakat* recipients, and therefore we should have the *Zakat* surplus. During recession we would expect a fall in *Zakat* collection and a rise in *Zakat* disbursement as more people are eligible to receive *Zakat* which leads to *Zakat* deficit and this deficit should be covered by the *Zakat* surplus accumulated from the previous years. But *Zakat* disbursement should be at most equal to the *Zakat* fund available then in this case we have a balanced *Zakat*. That is although the government can discretely change the amount of *Zakat* to be disbursed, the total disbursement of *Zakat* by the *Zakat* authority, in a particular year, should be at most equal to the *Zakat* fund available. That is *Zakat* deficit should be discouraged in Islam as it reflects extravagance but *Zakat* surplus is encouraged as it reflects thriftiness.

*Allah*, Surah Al-Furqan: 67, says

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

The above verse clearly indicates that Islam encourages moderation in spending. There are differing views among Muslim economists as to whether *Zakat* could be used as a fiscal instrument for stabilization policy. Faridi (1983:44) advocates *Zakat* to be a fiscal policy tool. He argues that *Zakat* collection and its disbursement may act as stabilizing effect on an Islamic economy through the built-in stabilizer and as

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5 Malaysia, for example, has been practicing a *Zakat* surplus policy.
a discretionary stabilizer through the *Zakat* disbursement. Ahmed et al. (1983) point out that there are a group of economists who are in favor of using *Zakat* as a countercyclical policy as it is not obligatory to disburse all the *Zakat* collection within a specific period, implying that some *Zakat* proceeds could be withheld during an inflationary period and then use it during the recessionary period to improve the economic performance; but there are also another group who argue otherwise.

**The Product Approach**

The product approach measures the flows of currently produced *halal* goods and services in an economy. This method measures national income by summing up the expenditures on the currently produced *halal* goods and services by the consumers, businesses, government, and the foreigners as shown by this identity

\[ GDP = Y = C_1 + C_Z + I + G + X - M \]  

(1)

where \( Y \) is the total production or output produced in the economy, \( C = C_1 + C_Z \), is the personal consumption expenditure, \( I \) is the gross private domestic investment, \( G \) is the government spending, \( X \) and \( M \) are the exports and imports of goods and services respectively. Since depreciation is assumed to be zero, then in this case \( I \) is the net investment; hence GDP is equal to net domestic product.

The personal consumption expenditure \( (C = C_1 + C_Z) \) is the consumption by the domestic households on final goods and services. \( C_1 \) is the consumption of individuals who pay *Zakat* and \( C_Z \) is the consumption of *Zakat* recipients. The consumption expenditures include expenditures on consumer durable goods, nondurable goods, and services. Consumer durables are the long-lived consumer goods such as computers, cars, televisions, and refrigerators. The nondurable goods are the shorter-lived goods such as food, clothing, and fuel, and services including education, health care, transportation, restaurants, banking, and tourism services.

Gross private domestic investments \( (I) \) is the spending on new capital goods which is called business fixed investment and also the changes in the firm’s inventory holdings called business inventory. Investment or investment spending are business transactions that result in capital accumulation which will increase in productive capacity and thus potential output of the economy. These transactions include the purchase and installation of new machinery and equipment, the construction and purchase of new commercial buildings and housing, and a change in business inventories. Thus, the business fixed investment includes expenditures by the business firms on structures such as factories, warehouses and the producers’ durable equipment such as machines, vehicles, and computers. All the residential structures are considered as investment. For rental housing, the rents are entered as consumer expenditure on services. For owner-occupied housing, the rental has to be imputed and enter as consumer expenditure on services while on the income side an imputed net rental income is added. The change in business inventories is the
change in the stock of inventories from the beginning to the end of an accounting period.

Government purchases of goods and services (G) are expenditures of the federal government on national defense and internal security; emolument, government investment, public consumption expenditures and also the expenditures by the state and local governments.

An Islamic State will also involve in foreign trade in goods and services. These include the purchases of domestic goods and services by the foreigners called exports and the domestic residents purchases of goods and services produced by foreign countries called imports. The net exports (X – M) is included in GDP. In this analysis, we assume the economy is not open to international trade and therefore the term (X – M) is excluded.

**The Income Approach**

The second approach is the national income which measures the income received by the factors of production. The income received is classified into three: wages and salaries, income from assets (wealth), and profits.

Wages and salaries, denoted as \( Y_w \), are the returns to the services of the factor of production, labor, for its contribution in the production of halal goods and services. Labor is the work time and work effort the people devote to producing goods and services. Labor includes the physical and mental talents of people working in the agricultural, manufacturing, and services sectors. The quality of labor depends on human capital which is the knowledge and skills that the people have acquired through education, on-the-job training, and work experiences.

Income from assets, \( Y_A \), consists of rental income received by the owners of land and other real properties, and payments made for the use of money capital by Islamic financial institutions to the depositors whose deposits are extended as loans to the business firms or individuals who want to make investments.

Profits (\( Y_\pi \)) are the rewards to the factor of production called management or entrepreneurial ability for their innovation and risk taking, that is the ability of the managers to allocate and mix the resources in an optimal manner in their effort to produce goods and services for the betterment of the ummah. In practice, these profits are compensation paid to the owners of sole proprietors and corporate firms. Combining all the three sources of income, we obtain the national income as

\[
Y = Y_w + Y_A + Y_\pi
\]  

(2)

The gross domestic product is obtained by adding the indirect taxes and depreciation, that is
\[
GDP = Y_w + Y_A + Y_\pi + TIND + \delta 
\]  

where TIND is the indirect taxes and \( \delta \) is the depreciation. To simplify our analysis we shall assume that both of the indirect taxes and depreciation are zero. The assumptions do not affect the general conclusion of the study.

**Disposition of National Income**

We can also breakdown GDP according to how the national income is used as follows

\[
Y = C_1 + S + Z + T \]  

Thus the national income \( Y \) is used for consumption, \( C_1 \), by the households who pay Zakat, saving by the households and saving by the businesses in the form of undistributed profits, \( S \); \( Z \) is Zakat payments and \( T \) is the net tax payments after deducting the domestic transfer payments and subsidies\(^6\).

**IV. THE AGGREGATE OUTPUT - EXPENDITURE ANALYSIS**

In recent years there have been numerous studies focusing on Islamic banking and financial sector. Although it has been recognized that the principal instrument of fiscal policy for an Islamic State is Zakat, there is little literature on macroeconomic model in an Islamic framework which incorporates Zakat as one of the fiscal policy instruments to analyze the efficacy of fiscal policy to stabilize the economic performance.

Zangeneh (1995) formulates a neoclassical macroeconomics model for an interest free economics system. He finds that even though the rules of conduct for Muslims in an Islamic economic system are different from those in the non-Islamic economic systems, the model shows that saving and investment do not necessarily fall in an Islamic economic system, as some economists suggest. The model indicates that, in general, an Islamic economic system is viable and the model also provides unique solutions for income, employment, and prices.

Metwally (1983) finds that Zakat expenditure has the ability to increase the aggregate consumption since the marginal propensity to consume of the Zakat payers is lower than that of Zakat recipients. This implies that the Zakat expenditure has a role in the national income determination; the higher the Zakat expenditures the higher the increase in the equilibrium output.

Tahir (1989) develops and introduces Zakat in an Islamic macroeconomic model focusing on the determination of aggregate output associated with the degree of

\(^{6}\) Notice that S, Z and T on the LHS are leakages.
inequalities in an Islamic economy. He finds that the aggregate output depends on autonomous expenditures, income distribution, and Zakat flows. Awad (1997) advocates a Zakat-based tax structure as a means to stimulate growth, stabilize the economy, and promotes social cohesion.

Our paper analyzes the impact of Zakat on the determination of national income. We divide the population into two groups: those who pay Zakat and those who receive Zakat as transfer payments which is similar to the approaches taken by Muslim economists, such as Ahmad Ausaf (1992) and Sayyid Tahir (1992). We formulate equations for consumption, Zakat, and taxes and then derive the reduced form consumption equation and the Zakat multipliers from which we infer the impact of Zakat on national income determination and its efficacy as stabilization policy.

**Aggregate Consumption**

The desired consumption of the group of individuals who pays Zakat, $C_1$, is

$$ C_1 = C_{01} + c_1(Y - Z - T) , \quad 0 < c_1 < 1 $$

(5)

where $c_1$ is the marginal propensity to consume (MPC$_1$), $C_{01}$ is the autonomous consumption, $Y$ is the national income, and $T$ is taxes. Thus $(Y - Z - T)$ is the disposable income after deducting Zakat and tax payments. We would expect $c_1$ to be relatively low.

The desired consumption of the group who receives Zakat, $C_Z$, is

$$ C_Z = C_{0z} + c_z Z_E, \quad 0 < c_z < 1 $$

(6)

where $c_z$ is the marginal propensity to consume of Zakat recipients (MPC$_2$). The intercept term, $C_{0z}$, is the autonomous consumption where this group of individuals have to consume even when they do not receive any Zakat as they may be receiving charitable contributions from the rich in the form of Sadaqah. $Z_E$ is the amount of Zakat disbursed by the government. To simplify our analysis further, we assume that the Zakat recipients do not have income and assets and therefore they are totally dependent on the Zakat fund allocated to them.$^7$

If the Zakat recipients spend all the Zakat received for consumption purposes, then $c_z = 1$ and therefore equation (6) becomes

$$ C_Z = C_{0z} + Z_E $$

(6b)

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$^7$ This assumption does not affect the general conclusions of the study, that is the prediction of the direction of causation by exogenous variables on endogenous variables. Adding income and assets of Zakat recipients to the model will only change the size of the multipliers.
giving the consumption function of the Zakat recipients as a horizontal line. This Zakat identity holds

\[ Z_E = C_z + S_z \]  

(6c)

where \( C_z \) and \( S_z \) are the consumption and saving of Zakat recipients respectively. Taking total differential of (6c) and dividing both sides by \( dZ_E \), we have

\[
1 = \frac{dC_z}{dZ_E} + \frac{dS_z}{dZ_E} = MPC_z + MPS_z
\]

where \( MPC_z \) is the marginal propensity to consume of the Zakat recipients and \( MPS_z \) is the marginal propensity to save. If \( MPS_z = 0 \) then \( MPC_z = 1 \). But there are a number of Zakat recipients who may choose to save a portion of the Zakat they receive; an example of these individuals are the Zakat administrators. And therefore the marginal propensity to consume of Zakat recipients as a group is less the one but should be relatively higher than the marginal propensity to consume of the Zakat payers.

The aggregate consumption, \( C \), is

\[
C = C_I + C_z = C_{0I} + c_I(Y - Z - T) + C_{0z} + c_z Z_E
\]

(7)

If \( c_z = 1 \) then

\[
C = C_{0I} + c_I(Y - Z - T) + C_{0z} + Z_E
\]

(7b)

We shall use consumption equation (3) in the subsequent analysis.

**Zakat Collection**

In this analysis Zakat is payable on individuals’ income, wealth (assets) and profits of business firms.

**Zakat from wages and salaries:** The Zakat collection from individuals’ wages and salaries, \( Z_w \), is

\[
Z_w = z_w(Y_w - C_{0w} - C_{0n})
\]

(8)

where \( C_{0w} \) is the nisab which is fixed and it is the minimum amount of consumption that an individual must have in an Islamic State. \( C_{0w} \) is the exemption given to the Zakat payers to cover the basic needs, while \( z_w \) is the Zakat rate which is also fixed. Kahf (1997: 20) suggests that these basic needs include food, shelter, clothing, medicine (health-care), furniture, tools of craftsman, transportation, and books for students or scholar. Thus, the term \( (Y_w - C_{0w} - C_{0n}) \) is the zakatable income. To certain extent, the State can vary the Zakat collection by changing the exemption
level, $C_{ow}$, when the need arises. For example when the cost of living is high due to inflation or during recession the State may decide to increase the exemption level. $Y_w$ is the income from wages and salaries. For further discussion of Zakat from wages and salaries or income, refer to Kahf (1989:9) and (1998:528).

**Zakat from assets (wealth):** Zakatable wealth or assets consist of saving in the financial institutions, properties, equities, Islamic bonds, gold, and silver. A more detailed discussion on zakatable items is given in Kahf (1989). Wealth is a stock variable and therefore its value is measured at a point in time. To simplify our argument, let us assume an individuals owning an asset(wealth) $A$. The value of asset at the beginning of the year is $A_0$ and this value grows at a rate of $r_A$. Therefore the value of the asset at the end of that year is

$$A_1 = A_0 (1 + r_A)$$

where $r_A$ is the rate of return from asset and $r_A A_0$ is the income generated by the asset after a year has elapsed. Let the Zakat rate be $z_A$. If $r_A \geq z_A$ then the asset has generated at least sufficient income to pay Zakat. If $r_A < z_A$ then conceptually the asset’s owner has to liquidate some of the asset to pay Zakat. This implies that in order to avoid the wealth from eroding, as a result of Zakat payments, individuals who own zakatable assets should obtain a return of at least $z_A$ per annum from their wealth implying that wealth in an Islamic society should not be left idle.

**Zakat collection from the asset from all individuals, $Z_A$, is**

$$Z_A = z_A(A_1 - C_{OA} - C_{0n})$$  \hspace{1cm} (9)

Substituting $A_1 = A_0 (1 + r_A)$ and let $Y_A = r_A A_0$, equation (9) can be written as

$$Z_A = z_A A_0 + z_A Y_A - z_A (C_{OA} + C_{0n})$$  \hspace{1cm} (10)

where $C_{OA}$ is the exemption given to the individuals who earn income from the buying and selling of assets. Notice that the term $z_A A_0$ is written separately as it does not contribute toward the production of currently produced goods and services and therefore excluded from GDP whereas the income generated by the assets, $Y_A$, is included in GDP.

**Zakat from profits:** Zakat collection on profits of all firms, $Z_{\pi}$, is

$$Z_{\pi} = z_{\pi}(\Pi - C_{0\pi} - C_{0n})$$  \hspace{1cm} (11)

where $\Pi$ is the profits before taxes, $C_{0\pi}$ is the exemption and $C_{0n}$ is the nisab level. The exemptions given to firms ($C_{0\pi}$) include their expenditures on R&D, training and re-training, and trade exhibition overseas.

**Total Zakat Collection**
The total *Zakat* collection, $Z$, is the sum of the *Zakat* collected from wages and salaries, income from assets, and business profits written as

$$Z = Z_w + Z_A + Z_\pi$$

Substituting for $Z_w$, $Z_A$, and $Z_\pi$, we have

$$Z = z_w(Y_w - C_{0w} - C_{0n}) + z_A(Y_A - C_{0A} - C_{0n}) + z_\pi(Y_\pi - C_{0\pi} - C_{0n}) + z_A A_0$$  \hfill (12)

For simplicity let the *Zakat* rates be equal, then equation (12) reduces to

$$Z = z(Y - C_{0E} - C_{0N}) + z A_0$$  \hfill (13)

where $Y = Y_w + Y_\pi + Y_A$, $C_{0E} = C_{0w} + C_{0A} + C_{0\pi}$, and $C_{0N} = C_{0n} + C_{0n} + C_{0n}$.

**Tax collection**

The government collects taxes from wages and salaries of private individuals, income from properties owners and profits of firms. The net tax collection from wages and salaries, $T_w$, is written as

$$T_w = T_{0w} + t_w [Y_w - Z_w]$$  \hfill (14)

Net tax collection from profits, $T_\pi$, is

$$T_\pi = T_{0\pi} + t_\pi [Y_\pi - Z_\pi]$$  \hfill (15)

Net tax collection from asset income, $T_A$, is

$$T_A = T_{0A} + t_A (Y_A - Z_A)$$  \hfill (16)

where $T_{0w}$, $T_{0\pi}$, and $T_{0A}$ are the lump-sum taxes which are taxes that do not depend on income; $t_{0w}$, $t_{0\pi}$, and $t_{0A}$ are the tax rates imposed on income, profits, and income from assets respectively. The total net tax collection, $T$, is the sum of the net taxes collected from wages and salaries, income from assets, and profits after deducting the domestic transfer payments and subsidies which is written as

$$T = T_w + T_\pi + T_A$$

Substituting for $T_w$, $T_\pi$ and $T_A$, we have

$$T = T_0 + t_w [Y_w - Z_w] + t_\pi [Y_\pi - Z_\pi] + t_A [Y_A - Z_A]$$  \hfill (17)
where \( T_0 = T_{w0} + T_{A0} + T_{\pi0} \). The terms in the brackets are the taxable income which are the income after Zakat from wages and salaries, asset income, and profits respectively.

Substituting equation (17) for \( Z_w, Z_A, \) and \( Z_\pi \), we obtain

\[
T = T_0 + t_w \left[ Y_w - z_w (Y_w - C_{0w} - C_{0n}) \right] + t_A \left[ Y_A - z_A (Y_A - C_{0A} - C_{0n}) \right] - t_A z A_0 + t_\pi \left[ Y_\pi - z_\pi (Y_\pi - C_{0\pi} - C_{0n}) \right]
\]

(17b)

Assuming now that the tax rates on income, profits and assets income are equal to \( t_w = t_A = t_\pi = t \) and that the Zakat rates are also equal to \( z_w = z_A = z_\pi = z \). Recall that the total national income, \( Y \), is the sum of total wages and salaries, income from assets, and profits, that is \( Y = Y_w + Y_\pi + Y_A \). Thus (17b) can be simplified to

\[
T = T_0 + t Y - tz Y + tz C_{0N} + tz C_{0E} - t z A_0
\]

(18)

Substituting the tax equation (18) into the consumption equation (7) we obtain,

\[
C = C_{01} + C_{0z} + c_1 Y - c_1 Z - c_1 t_0 + c_1 t z C_{0E} - c_1 t z C_{0N} - c_1 t Y + c_1 t Y + c_1 Z E + c_1 t z A_0
\]

(19)

Substituting \( Z = z(Y - C_{0E} - C_{0N}) \) into (19) becomes, we obtain the aggregate consumption function in reduced form as

\[
C = C_{01} + C_{0z} + (c_1 - c_1 z - c_1 t + c_1 t z) Y + (c_1 z - c_1 t z) C_{0E} + (c_1 z - c_1 t z) C_{0N} - c_1 t Y + c_1 Z E + c_1 t z A_0
\]

(20)

Equation (20) suggests that the aggregate consumption function in an Islamic economy depends on income, the exemption levels, taxes, Zakat expenditure, and asset holdings of individuals.

Taking total differential of (20), we have

\[
dC = dC_{01} + dC_{0z} + (c_1 - c_1 z - c_1 t + c_1 t z) dY + (c_1 z - c_1 t z) dC_{0E} + (c_1 z - c_1 t z) dC_{0N} - c_1 dT_0 + c_1 dZ E + c_1 t dA_0
\]

(20a)

Equation (20a) shows the change in the consumption as a result of the changes of all of its determinants. The impacts of each of the determinants on consumption are as follows:

\[
\frac{\partial C}{\partial Y} = [c_1 - (c_1 z + c_1 t) + c_1 t z] > 0
\]

Since \( c_1 > 0; 0 < c_1 < 1, 0 < z < 1, 0 < t < 1 \) and therefore the term \((c_1 t + c_1 z)\) is expected to be smaller than \( c_1 \). Thus an increase in income will increase consumption.
\[ \frac{\partial C}{\partial C_0E} = (c_1z - c_1tz) > 0 \]

Since \( 0 < c_1 < 1 \); \( 0 < z < 1 \), \( 0 < t < 1 \), therefore \( c_1z > c_1tz \); an increase in the exemption level will increase consumption. In similar manner we obtain the impact of taxes, Zakat expenditure, and wealth on consumption as follows:

\[ \frac{\partial C}{\partial T_0} = -c_1 < 0 \]

\[ \frac{\partial C}{\partial Z_E} = c_z > 0 \]

\[ \frac{\partial C}{\partial A_0} = c_1tz > 0 \]

The above analysis indicates that taxes have negative effect on consumption, an increase in taxes will reduce consumption expenditure. Both of the Zakat expenditure and asset holdings have positive impact on consumption; an increase in Zakat expenditure and asset holdings by households will encourage consumption spending. The effects of taxes and Zakat expenditure on consumption are quite straightforward but in the case of asset holdings, they are not as direct. First, an increase in asset holdings by the Zakat payers implies that they will feel wealthier and therefore they will spend more at every level of income because they can always liquidate these assets when they face liquidity problems or borrow more money using the assets as collateral. Furthermore, as the asset holdings increase, the Zakat payers have to pay more Zakat affording the Zakat authority to increase its Zakat disbursement which will then increase consumption spending by the Zakat recipients.

V. THE ZAKAT, TAXES, INVESTMENT AND GOVERNMENT SPENDING MULTIPLIERS

For simplicity and without loss of generality, we assume a closed economy. Therefore the national income identity is written as

\[ Y = C + I + G \]  \hspace{1cm} (21)

where \( G = G_0 \) is the government spending from taxes, and \( I = I_0 \) is the gross private investment, all are assumed to be exogenous. Equation (21) says that the equilibrium income is determined when the aggregate supply, \( Y \), equals aggregate demand, \( C + I + G \). The Zakat, taxes, investment, and government spending multipliers is derived by substituting the aggregate private consumption (20) into the national income identity (21) to obtain

\[
Y = C_0I + C_0E + (c_1z - c_1tz)Y + (c_1z - c_1tz)C_0E + (c_1z - c_1tz)C_0N
- c_1T_0 + c_zZ_E + c_1tzA_0 + I_0 + G_0
\]

Rearranging and simplifying, we have the reduced form
\[ Y = \left[ \frac{1}{1 - c_1 + c_1t - c_1tz + c_1z} \right] \left[ C_{01} + C_{0z} + (c_1z - c_1tz)C_{0E} + (c_1z - c_1tz)C_{0N} - c_1T_0 + c_zZ_E + c_1tzA_0 + I_0 + G_0 \right] \] (22)

The total differential of (22) is
\[ dY = \left[ \frac{1}{1 - c_1 + c_1t - c_1tz + c_1z} \right] \left[ dC_{01} + dC_{0z} + (c_1z - c_1tz) dC_{0E} + (c_1z - c_1tz) dC_{0N} - c_1 dT_0 + c_z dZ_E + c_1tz dA_0 + dI_0 + dG_0 \right] \] (23)

Equation (23) shows the effects of the changes in each of the exogenous variables on the endogenous variable, \( Y \). Since \( C_{0N} \) is fixed therefore \( dC_{0N} = 0 \). The multipliers for \( C_{01}, C_{0z}, T_0, I_0, G_0 \) and \( Z_E \) are obtained by taking partial derivatives of (23) with respect to each of the variables.

The multiplier for the autonomous consumption for the Zakat payers is
\[ \frac{\partial Y}{\partial C_{01}} = \left[ \frac{1}{1 - c_1 + c_1t - c_1tz + c_1z} \right] > 0 \] (23b)

The multiplier for the autonomous consumption for the Zakat recipients is
\[ \frac{\partial Y}{\partial C_{0z}} = \left[ \frac{1}{1 - c_1 + c_1t - c_1tz + c_1z} \right] > 0 \] (23C)

implying that an increase in the autonomous consumption from the Zakat payers and Zakat recipients will increase national income and economic activities.

The multipliers for the exemption levels of wage earners, assets owners, and firms are the same given respectively as follows
\[ \frac{\partial Y}{\partial C_{0E}} = \left[ \frac{1}{1 - c_1 + c_1t + c_1z - c_1tz} \right] \left[ c_1z - c_1tz \right] > 0 \] (24)

All these multipliers are positive and therefore economic activities could be increased by raising the exemption levels. During recession the government may want to increase the exemption levels to encourage private spending whereas during the boom period the government may want to reduce the exemption levels to discourage spending by the household and the business sectors.

The tax multiplier is
\[ \frac{\partial Y}{\partial T_0} = \left[ - c_1 \left( \frac{1}{1 - c_1 + c_1t + c_1z - c_1tz} \right) \right] < 0 \] (25)

indicating that a reduction in taxes will increase national income and vice-versa.

The autonomous investment multiplier is
\[ \frac{\partial Y}{\partial I_0} = \left[ \frac{1}{1 - c_1 + c_1t + c_1z - c_1tz} \right] > 0 \] (26)
implying that national income can be increased through increasing domestic private investment.

The multiplier for government spending, $G_0$, is

$$\frac{\partial Y}{\partial G_0} = \left[\frac{1}{1 - c_1 + c_1 z - c_1 t z}\right] > 0$$

meaning that economic activities could also be increased by raising government spending.

The multiplier for assets, $A_0$, is

$$\frac{\partial Y}{\partial A_0} = \left[\frac{1}{1 - c_1 + c_1 z - c_1 t z}\right] > 0$$

suggesting that an increase in asset holdings will increase income. This occurs, firstly through the fact that assets themselves generate income as discussed earlier. Secondly, an increase in asset holdings will increase the individual capacity to borrow money for consumption purposes which generate more economic activities and income.

Our particular interest is the multiplier for Zakat, $Z_E$, which is obtained as

$$\frac{\partial Y}{\partial Z_E} = \left[\frac{c_z}{1 - c_1 + c_1 t + c_1 z - c_1 t z}\right] > 0$$

The Zakat multiplier depends on the marginal propensity to consume of Zakat recipients, $c_z$. Since $c_z > 0$, therefore the Zakat multiplier is positive, implying that an increase in Zakat expenditure will increase economic activities, wages, and employment. The Zakat expenditure, $Z_E$, is at the disposal of the government or the Zakat authority.

In a special case where $c_z = 1$, the Zakat multiplier is

$$\frac{\partial Y}{\partial Z_E} = \left[\frac{1}{1 - c_1 + c_1 t + c_1 z - c_1 t z}\right] > 0$$

showing that, in this special case, the Zakat multiplier is the same as the other multipliers of other exogenous variables in the model, such as $I$, $G$, and $C_{0E}$, but its impact on income is higher than the case where $c_z < 1$.

**VI. THE CASE OF BALANCED ZAKAT**

In the following section we shall analyze the case where Zakat collection is equal to Zakat disbursement, that is when $Z_E = Z$, here termed as a balanced Zakat.
Aggregate Consumption

Recall equation (19) which is the aggregate consumption function when Zakat collection is not equal to Zakat disbursement given as

\[ C = C_{01} + C_{0z} + c_1 Y - c_1 T_0 - c_1 t z C_{0E} - c_1 t z C_{0N} - c_1 t Y + c_1 t z A_0 \]  
\[ + c_1 t z Y + c_1 z E + c_1 z A_0 \]  
(19)

If all the Zakat fund is spent then \( Z = Z_E \), we have

\[ C = C_{01} + C_{0z} + c_1 Y - c_1 Z_E - c_1 T_0 - c_1 t z C_{0E} - c_1 t z C_{0N} - c_1 t Y + c_1 t z A_0 \]  
(19b)

Simplifying, we obtain

\[ C = C_{01} + C_{0z} + (c_1 - c_1 t + c_1 t z) Y + (c_1 z - c_1) Z_E - c_1 T_0 + c_1 t z A_0 \]  
(19b)

Multipliers for Zakat, Taxes, and Government Spending

Substituting for \( C \) of (19b) in national income identity (21) and taking the total differential, we obtain

\[ dY = \left[ \frac{1}{(1 - c_1 + c_1 t - c_1 t z)} \right] \left[ dC_{01} + c_1 t z dC_{0E} + dC_{0z} - c_1 dT_0 \right] \]  
\[ +(c_1 z - c_1) dZ_E + dI_0 + dG_0 \]  
(30)

The multiplier for the autonomous consumption for the Zakat payers is

\[ \frac{\partial Y}{\partial C_{01}} = \left[ \frac{1}{(1 - c_1 + c_1 t - c_1 t z)} \right] > 0 \]  
(31)

The multiplier for the autonomous consumption for the Zakat recipients is

\[ \frac{\partial Y}{\partial C_{0z}} = \left[ \frac{1}{(1 - c_1 + c_1 t - c_1 t z)} \right] > 0 \]  
(32)

The multipliers of exemption levels for wage earners, asset owners, and firms are the same, given respectively as follows

\[ \frac{\partial Y}{\partial C_{0E}} = \left[ \frac{1}{(1 - c_1 + c_1 t - c_1 t z)} \right] [c_1 t z] > 0 \]  
(33)

The tax multiplier is

\[ \frac{\partial Y}{\partial T_0} = -\frac{c_1}{(1 - c_1 + c_1 t - c_1 t z)} < 0 \]  
(34)

The investment multiplier is
The multiplier for government spending, \( G_0 \), is

\[
\frac{\partial Y}{\partial G_0} = \frac{1}{(1 - c_1 + c_1 t - c_1 t z)} > 0
\]  

(36)

The balanced Zakat multiplier is given as

\[
\frac{\partial Y}{\partial Z_E} = \frac{(c_z - c_1)}{(1 - c_1 + c_1 t - c_1 t z)} > 0
\]  

(37)

The balanced Zakat multiplier is more sophisticated where its magnitude depends on the values of \( c_z \) and \( c_1 \). If \( c_z > c_1 \) then \( (c_z - c_1) > 0 \), therefore the Zakat multiplier is positive, implying that an increase in Zakat collection and the subsequent disbursement and spending by the recipients will increase economic activities, wages, and employment. It is very clear from the above equation that the effect of an increase in Zakat depends crucially on the differential between the marginal propensity to consume by the Zakat payers \( c_1 \), and the Zakat recipients, \( c_z \); the higher the value of \( c_z \) and the lower the value of \( c_1 \) the higher the value of multiplier and therefore the more effective is the effect of Zakat on economic activities. Notice that the balanced Zakat multiplier is smaller than endogenous Zakat multiplier. It is also smaller than the investment and the government spending multipliers.

In a special case where \( c_z = 1 \), the Zakat multiplier is

\[
\frac{\partial Y}{\partial Z_E} = \frac{1 - c_1}{(1 - c_1 + c_1 t - c_1 t z)} > 0
\]  

(38)

Since \( 0 < c_1 < 1 \), the Zakat multiplier for this special case is positive; an increase in Zakat spending will be unambiguously raising the economic activities. The multiplier is larger than the case of \( c_z < 1 \).

VII. FISCAL POLICY AND ZAKAT AS STABILIZATION POLICY

In the analysis of the previous sections, we have discussed the relationship of Zakat, government spending and taxes with national income or economic activities. In this section we shall explain the discretionary and non-discretionary (automatic) aspects of fiscal policy and see how the policy helps improve the performance of the economy. The findings from this study support the general conclusions of the previous studies in that Zakat could play an important role in the determination of equilibrium national income and employment.

Discretionary fiscal policy means the government will make decision whether to change or not to change the Zakat expenditure as argued by Faridi (1983), taxes, and government spending. During the expansion phase of the business cycle, the economy may face inflationary pressure due to the increase in aggregate demand,
especially when the economy is approaching full-employment level. The inflationary gap can be reduced by decreasing government spending and disbursement of Zakat; decreasing exemption levels and increasing taxes. Likewise, the economy may be facing high level of unemployment during the contractionary phase of the business cycle caused by insufficient aggregate demand. The government could reduce this recessionary gap by increasing government spending, disbursement of Zakat, the exemption levels and decreasing taxes. This discretionary fiscal policy will help to dampen the macroeconomic fluctuations. The government may also increase the expected rate of profits by giving tax credit to the business sector to spur private investment and increase economic activities when the economy is experiencing a down-turn.

The non-discretionary fiscal stabilizing process occurs automatically during the phases of a business cycle. The Zakat and tax collections increase during the phase of economic expansion and fall during an economic down-turn. This point is also clearly pointed out by Faridi (1976). During the expansionary phase of the business cycle, unemployment rate falls, wages and salaries increase, rental income and profits increase and therefore raising the Zakat and tax collections. As more Zakat and taxes are collected by the government, the household and business sectors will have less fund to spend; this reduces the aggregate demand which will then dampen the extent of the expansionary phase preventing the economy from overheating. Furthermore, the number of eligible Zakat recipients falls during the boom period. All these will help increase in Zakat surplus in the Baitul-Mal and the government also may experience budget surplus when its total revenues are more than its expenditures. The reverse is true when the economy is experiencing a down-swing. The Zakat and tax collections fall, and therefore the household and business sectors will have more money to spend; this increases the aggregate demand which help to dampen the extent of the economic down-turn.

VIII. CONCLUSION

This study incorporates Zakat into a simple macroeconomic model of an Islamic economy to analyze the impact of Zakat on the determination of equilibrium income and see how Zakat plays its role in the demand management policy. We then derive the aggregate consumption function in reduced form and found that the determinants of consumption are: Zakat expenditure, taxes, income, and asset holdings of individuals.

Since the Zakat rate is fixed, we cannot change the Zakat rate to dampen the macroeconomic fluctuations. The role of Zakat in the demand management policy is through the non-discretionary (built-in stabilizer) and discretionary policy. The built-in stabilizer mechanism occurs when Zakat collection is automatically reduced during recession giving more money to people to spend which tends stimulate the economy; while during the boom period more Zakat is collected, reducing the ability of the people to spend which tends to dampen economic activities. These reduce macroeconomic fluctuations.
In the case of discretionary fiscal policy, the government varies the disbursement of Zakat to the recipients and the exemption levels to the Zakat payers whenever necessary during the phases of the business cycle. During the expansion phase of a business cycle the government may want to decrease Zakat disbursement and exemption levels to reduce aggregate spending of Zakat payers and thus prevent the economy from overheating. This action coupled with the fall in the number of eligible Zakat recipients will help increase the Zakat surplus in the Baitul-Mal. Likewise Zakat disbursement and exemption levels could be increased when the economy is in the downswing to spur aggregate spending and economic activities. Since the number of eligible Zakat recipients increases during recession, the government could disburse more Zakat by using the Zakat surplus accumulated from the boom periods. The ulama’ have unanimously agreed that an Islamic State may impose taxes when its revenues are insufficient to cover its spending implying that taxation and government spending are compatible with Islam. Therefore Zakat, government spending, and taxation complement each other as stabilization policy.

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