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Inclusive Growth with Zakat

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1. INTRODUCTION

Zakat is an annual religious levy that is collected from rich Muslims and its proceeds are disbursed among poor people of the society. It has many spiritual and social merits. For example, it purifies the hearts of zakat-givers as they give away a part of their wealth, one of the most precious things in their lives, seeking the pleasure of God without requiring any worldly gains whatsoever. It bridges the social gap between 'haves' and 'have-nots.' This study analyses, however, only economic consequences of Zakat for economic growth. They cannot be appreciated duly unless one understands the following concepts of modern economics; various theories of consumption, aggregate demand, stagnation thesis, consumption puzzle, marginal productivity of capital and Kuznets curve.

In classical economics, consumption is a negative function and saving is a positive function of interest rate while investment is a negative function of interest rate. As a result, at equilibrium interest rate in a closed economy, investment is always equal to saving. In other words, the issue of persistent deficient aggregate demand does not arise in classical framework. Therefore, occurrence and longevity of Great Depression became a puzzle for classical economists as they could not explain it. At that juncture, Keynes (1936) propounded an alternative theory that the main determinant of consumption and saving is current income, not interest rate. An important feature of Keynesian consumption function known as absolute income hypothesis (AIH) is that average propensity to consume decreases as income increases.[1]

An important implication of AIH is the 'paradox of thrift' or stagnation thesis. It states that as an economy grows over time, its overall average propensity to consume falls and thus the problem of deficient aggregate demand emerges.[2] Consequently, a downturn follows every spell of economic growth. It means that income distribution is relevant for economic growth. For illustration, consider two economies having exactly the same average per capita GDP but one is divided into two classes of 'haves' and 'have-nots' and the other has perfect equality. According to AIH, higher saving rate of the rich class in the former economy implies greater investment and economic growth in that economy. Therefore, a natural policy implication to accelerate economic growth is to

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[1]See Keynes (1936), Schifferes (2008) and Mankiw (2006).

[2]See Schifferes (2008).

create a class of rich businessmen by granting them investment subsidies, tax holidays and easy credit. As a matter of fact, many governments of the world actually adopted this policy. Supporters of this viewpoint contend that accelerated growth of a country also has the 'trickle down' effect for the poor as additional investment creates jobs and employment opportunities for them. As a result, their economic conditions also improve though their relative position compared with the rich class or income inequality in the country may worsen over time. However, an adverse consequence of having a class system in a society is that if richness and hence investment of upper class keeps on increasing, then excess capacity and deficient aggregate demand appear simultaneously in the economy which earmark a downturn in the economy.

Subsequent empirical researches mostly using cross-sectional and household data verified AIH. However, Kuznets' seminal study which used time series and aggregate data refuted AIH.[3] Kuznets concluded that apc is constant in the long run. These contradictory findings presented the consumption puzzle as to why apc of low-income households is greater than that of high-income households in the short run and as to why apc remains constant at aggregate level as GDP of a country increases over time. Friedman (1957) and Modigliani (1966) though resolved this puzzle to a great extent by propounding permanent income hypothesis (PIH) and relative income hypothesis (RIH) respectively, yet the debate on relevance of income distribution for economic growth, at least in the short run, has not ended.

Currently, on one side are mainstream economists who do not brush away AIH but still see little relevance of income distribution for economic growth. They are of the view that any deficiency in aggregate demand can be made up through alternative methods. Their viewpoint is generally known as 'Washington Consensus' that particularly emphasises five key policies; trade linearisation and export-led growth, financial market liberalisation and financial capital mobility, fiscal and monetary austerity, privatisation, and labour market flexibility. A natural consequence of these policies is worsening of income distribution.[4] On the other side are new Keynesian economists who still accord much importance to income distribution for economic growth.[5] In their view, an equitable income distribution is extremely important to forestall any deficiency in aggregate demand or to avoid possibility of stagnation thesis in the long run. However, they are not so strict against an inequitable functional distribution of income that is between capitalists and wage earners as they are against an inequitable income distribution within wage earners that is between managers and production workers or between supervisory and non-supervisory staff. The reason is that any deterioration in functional distribution only disturbs the composition of GDP as a decrease in wages causes a fall in consumption while an increase in profits causes a rise in investment. On the contrary, any deterioration in income distribution within workers curtails aggregate consumption without causing a matching increase in investment. Therefore, they recommend income redistribution mainly within working class.

In line with classical thinking, another seminal study by Kuznets (1955) mitigated the importance of any scheme of income redistribution in a decentralised economy. He

[3]See Kuznets (1946) and Mankiw (2006).
[4]See Palley (2002b).
[5]See Palley (2001, 2002a, 2002b).

explored the historical evolution of income distribution and per capita output. He concluded that income distribution deteriorates as per capita output of a low-income country increases but after achieving a certain level of development, then income inequality starts smoothing out with further increases in per capita output. That is Kuznets' curve which shows the relationship between economic growth and income distribution is of inverse 'U' shape. Various reasons have been offered to justify this particular shape of Kuznets' curve. For example, one argument is that a stagnant or slow-growing agrarian economy in which wages as well as wage differentials are low starts growing fast when a small fraction of workers move to manufacturing sector in which wages are usually higher than those in agriculture sector due to greater capital intensity and wage differential are also higher due to the requirement of both skilled and unskilled workers. This process of transformation continues to generate higher growth rate but worsening income inequality unless majority of workers move to well-paying manufacturing sector and shortage of skilled workers is also made up over time. As soon as the economy is transformed from a predominantly agrarian economy to a predominantly industrial one, then further increases in per capita output generate equitable distribution of income.[6]

Aghion and Bolton (1994) gave another explanation. At early stages of economic growth, capital is owned mostly by the rich. Therefore, they get richer and richer by appropriating scarcity rent. However, after achieving a certain level of growth, capital accumulation abounds and scarcity-rent for capital disappears; then economic growth induces income equality. Perotti (1993) emphasised the political process for inverse U shape of Kuznets' curve. In his view, poor workers who are in majority at early stages of development take some time to mend the system in favour of subsidised loaning to them, thus promoting further growth along with a decrease in income inequality. The essence of all these explanations is that income distribution improves in the due course of development without requiring any deliberate effort of income redistribution on the part of government.

However, in the last quarter of twentieth century, it was noticed that many developing countries particularly Asian tigers experienced phenomenal growth without damaging their income distribution as suggested by Kuznets' curve. Moreover, many developed countries particularly USA which had been experiencing improvement in their income distribution since the end of World War II, have started experiencing worsening of their income distribution since 1970s.[7] These anomalies have casted doubts about universality of Kuznets' theory and thus have reinvigorated curiosity of academia to reassess the importance of income redistribution for economic activity at all stages of development of a country.

With this background knowledge, it may be argued that Islamic economics not only sides with those economists who favour an equitable income distribution within wage earners but it also accords even greater importance to equitable size and functional distributions. Any worsening of size and functional distributions though may not disturb aggregate demand in the short run, as argued, yet it certainly holds back economic growth because marginal productivity of capital falls as capital concentrates in few hands. Zakat

[6]See Ahluwalia, *et al.* (1979).

[7]See Piketty and Saez (2003), and Saez and Zucman (2014).

is imposed on a wage earner whose saving exceeds a certain amount called nisab and also on a capitalist whose asset holding exceeds nisab. It means that imposition of Zakat, long before Economics was introduced as a separate discipline of knowledge, not only endorsed the Keynesian concept of equitable distribution of income to foreclose any possibility of deficient aggregate demand but it also visualised the detrimental effect of wealth concentration in few hands for economic growth of an economy. The objective of this research is to highlight important features of zakat and to investigate through a simulation model the major concern of mainstream economists that any effort to redistribute income at an early stage of development jeopardises economic growth.

The scheme of this paper is that Section 2 presents theoretical background to appreciate economic significance of zakat that is normally interpreted merely a form of worship to God. Section 3 highlights important features of zakat to qualify it as an ideal tool for income redistribution. Section 4 presents a simulation model that compares economic growth with and without zakat. The last section is reserved for conclusion and policy implications, if any.

2. THEORETICAL BACKGROUND

For a long time after the emergence of Economics as a separate discipline of knowledge, Say's law remained the dominant theory to explain aggregate consumption behaviour and output of a country. It can simply be stated as supply creates its own demand or a "general glut" (the term used in Say's time for a widespread excess of supply over demand) cannot occur. If certain goods remain unsold, it is because other goods which can be sold immediately are not produced in the country. Technically it implies that the equilibrating variable for both saving and investment is interest rate. Therefore, it is not possible in a market economy to have deficient aggregate demand and unemployment for a long time. Along with Adam Smith's theory of 'invisible hand', Say's law has been the other important doctrine used to support the laissez-faire belief that a capitalist economy naturally tends toward full employment without any government intervention. However, longevity and severity of Great Depression cast doubts about validity of this view. Classical economists could not offer any appealing reason to justify Great Depression which created a theoretical vacuum in this otherwise growing discipline of knowledge.[8]

At that point, Keynes (1936) conjectured a new consumption theory that was appealing psychologically but was not tested empirically before its statement. In his theory known as absolute income hypothesis (AIH), current income is the main determinant of consumption. Although Keynes admitted that interest rate can influence consumption as a matter of theory, yet he concluded on the basis of experience that influence of interest rate on individual consumption in the short run is secondary and relatively unimportant. Keynes contemplated a consumption function based on introspection and casual observations. It has two main features; marginal propensity to consume (mpc) is less than one and average propensity to consume falls as income rises. The second feature which is more relevant for this research can also be interpreted as consumption is the function of the poor and saving is the function of the rich.

[8]See Mankiw (2006).

Subsequently, many empirical researches conducted on cross-sectional micro data on consumption found that households with higher income saved a larger fraction of their income which confirmed Keynes idea that apc falls as income rises. However, two events discredited Keynes' consumption function a great deal. One was that due to voluminous increase in defense expenditures of the US government during World War II, GDP increased significantly. Therefore, assuming a significant fall in government expenditures after the war and a decrease in overall apc in the country due to high growth during war years, many economists predicted secular stagnation or emergence of deficient aggregate demand after the war. But contrary to this prediction, it did not happen to occur. The other is that Kuznets (1946) analysed almost a century-long aggregate data on consumption and concluded that apc was remarkably stable from decade to decade, despite large increases in per capita GDP over that period. This contradiction in Keynesian consumption theory and empirical findings of Kuznets presented the consumption puzzle which could not be resolved by professional economists for some time. Finally, Friedman (1957) and Modigliani (1966) gave respectively permanent income hypothesis (PIH) and life-cycle hypothesis (LCH) which justified falling apc in the short run and almost constant apc in the long run. It means that these consumption hypotheses did not discredit Keynesian consumption theory completely. Therefore, the debate about relevance of income distribution for economic activity has not ended yet.

Although AIH affirms the role of income distribution for economic growth, yet somewhat contradictory policy implications are drawn from it. On one side, it is argued that economic growth in a developing country can start only if its government encourages income inequality by providing investment incentives and tax holidays to business community. Supporters of this view further argue that a sustained increase in investment by rich people of the country has some 'trickle down' effect for poor people as well. As investment increases, they get well-paid jobs. As a result, their absolute poverty decreases and their economic conditions improve though their relative poverty may worsen over this period. On the other side is the stagnation thesis; as per capita output in a country grows over time, households consume a smaller and smaller fraction of their incomes or overall apc in the country falls. Consequently aggregate consumption may not be sufficient to absorb all output that is generated from profitable investment projects. As a result, on one hand, excess capacity on the supply side of the economy starts increasing and, on the other hand, aggregate demand on the demand side of the economy starts squeezing that threatens economic downturn.[9]

Another seminal study by Kuznets (1955) concluded that the relationship between economic growth and income inequality if plotted on a graph looks like inverse 'U'. That is, at initial stages of economic growth, income inequality worsens and after achieving a certain benchmark of economic growth, income inequality starts improving without any deliberate effort of income redistribution on the part of government. Many economists believe that the benchmark growth rate is achieved when a basically agrarian economy is transformed into an industrial one.[10] Kuznets' findings, in fact, mitigated the importance of stagnation thesis and left no room for any deliberate governmental effort to redistribute income from the rich to the poor.

[9]See Wikipedia (not dated) for excess capacity.

[10]See Acemoglu and Robinson (2002).

Although stagnation thesis sounds good theoretically, yet it has not occurred, so far, in any developed country as feared. Actually there are various government options and uncontrollable economic events which can postpone it for a long time. One such option is an increase in budget deficit either through an increase in government expenditures or through a cut in taxes. It raises aggregate demand that may counter any fall in aggregate demand due to falling overall apc in the country. Another option is an expansionary monetary policy that mostly results in an increase in bank lending to households, businessmen and corporate sector that may cover up any deficiency in aggregate consumption due to falling apc. Yet another option is initiation of an export promotion scheme as an increase in a country's exports offsets any deficiency in aggregate demand domestically. One such uncontrollable economic event is onset of a boom either in stock market or in real estate market or in both. It raises the value of wealth of ongoing businesses and households which, in turn, pushes up their investment and consumption demands. Another such event is that households change their preferences; they start consuming more and saving less. It also adds to aggregate demand of a country.[11]

All these options have been exercised and events have occurred, so far, either one after the other or in some combination or all together in many countries particularly in USA. Therefore, USA that is the citadel of capitalism has never experienced the brunt of stagnation thesis in its true form except in Great Depression. However, two developments, the widening income inequality in USA in the last three decades in face of continuous economic growth and sluggish economic recovery after the global financial crisis in 2007-08 have drawn the attention of academia again toward stagnation thesis. These developments have brought home two ideas which Keynesian consumption function implies; income distribution has serious consequences for economic growth and income distribution gets worse in a decentralised economy as it grows over time.

Having understood the relevance of income distribution for economic growth in conventional economics, one can appreciate that zakat, which was introduced for a primitive Muslim society fourteen centuries ago, has economic significance for a well-functioning capitalistic system like the current one. Zakat not only affirms that equitable distribution of income is congenial for economic growth but it also gives the details of an effective scheme of redistribution. That is, it specifies the period after which a deliberate redistribution scheme by the state has to be implemented and it also specifies the minimum redistribution rate for each type of assets. It may also be argued that in Islamic economics, an equitable income distribution and alleviation of poverty takes precedence over economic growth as zakat is imposed even if there is no growth in the economy.

3. BASIC FEATURES OF ZAKAT[12]

(i) *State Tax:* Zakat is one of the five pillars of Islam. It is enjoined upon Muslims like an act of worship. However, in economic terminology, it can be translated as a wealth tax that is collected annually by the state from the wealth of a Muslim provided that it exceeds a certain limit called nisab. Zakat

[11] See Palley (2002a, 2002b).

[12] See Moududi (1990) and Shafi (1963).

proceeds are expended for the benefit of the poor. If the state does not collect zakat, then a rich Muslim is obligated to pay it directly to the poor.

(ii) *Items Subject to Zakat:* Zakat is unanimously levied on gold, silver, cash or bank deposits, pasturing cattle, agricultural produce, mines and treasure troves. Regarding business assets and property held for commercial purposes, there are two opinions. One is that zakat is levied on their value. The other view which is supported by majority of Muslim jurists is that it is levied on the income generated from them. According to majority view, intermediate goods used for production of final goods like tools and machinery, and animals used for agriculture are not subject to zakat. Any property and durable goods possessed for personal use like dwelling houses, furniture and fixture, clothing, household utensils, books are exempted from zakat irrespective of their value.

(iii) *Nisab or Exemption Limit:* The nisab is fixed in terms of gold, 7.5 tola equal to approximately 84 grams, and in terms of silver, 52.5 tola equal to approximately 612 grams. In case of cash and bank deposits, it is equivalent to the value of 84 grams of gold or the value of 612 grams of silver whichever is less. The nisab for agricultural produce is 5 wasaq equal to approximately 948 kilo grams and for pasturing cattle it depends upon the type of cattle. For example, in case of goats and sheep, it is 40 heads and in case of cows and buffalos, it is 30 heads.

(iv) *Rate of Zakat:* Zakat rate is not the same for all zakatable items. It is 2.5 percent for gold, silver, cash and bank deposits. It ranges from 1 to 2.5 percent for pasturing cattle. It is 5 percent on the produce of irrigated land and 10 percent on the produce of non-irrigated land. It is 20 percent on treasure troves.

(v) *Observable and Non-Observable Wealth:* Observable wealth like pasturing cattle and agricultural produce cannot be easily hidden whereas non-observable wealth like gold, silver and cash can easily be hidden from the state to avoid zakat. Therefore, Muslim jurists suggest that the state should collect zakat on observable wealth compulsorily even by force, if necessary, whereas state should leave payment of zakat on non-observable items upon the will of their holders.

(vi) *Usage of Zakat Proceeds:* Zakat revenue can be spent only on 8 heads mentioned in Quran; poor, needy, state officials appointed for collection and disbursement of zakat, those whose hearts are to be made inclined and polite toward Islam, ransoming of captives, debtors, way farers and in the way of God. Currently fourth and fifth heads are not much relevant. Regarding the remaining heads except the thirds one, Muslim jurists have agreed unanimously that the poor should be given preference.

(vii) *Miscellaneous:* Zakat is imposed if a Muslim possesses a zakatable item exceeding its nisab for the whole year. Zakat is calculated on the average or year-end value irrespective of fluctuations in its value over the year. If the quantity or number of one zakatable item possessed by a Muslim falls short of its nisab but their sum exceeds the nisab, then the person is liable to pay zakat. For illustration, a Muslim having 20 grams of gold, 20 sheep and 15 cows has to pay zakat. Zakat may be paid in kind or in equivalent cash on a single day or

over a period of time. It may be spent on a single head or on some of them or on all of them proportionately or discretionally. Zakat is preferably given in the possession of its recipient and is not donated to an institution from which a zakat recipient derives some benefits. The amount of zakat paid to a recipient should neither be less than a full day's normal meals, nor be greater than the value of nisab.

It is evident from basic features of zakat that it is levied on idle wealth whether inherited or self-accumulated, which has the potential to grow over time. The rate of zakat on a wealth item depends on the extent to which its growth depends on nature. For example, rate of zakat is minimum on pasturing cattle and maximum on non-irrigated land and treasure troves. Its beneficiaries are mostly down trodden people of the society. With these characteristics, zakat can be claimed as an ideal mechanism to discourage concentration of wealth in few hands and an ideal tool to redistribute income from the rich to the poor.

4. ECONOMIC GROWTH WITH AND WITHOUT ZAKAT

For the following simulation, first of all population has to be divided into three groups; the rich class in which each member has idle saving or owns wealth in excess of the nisab, the middle class in which each member has idle saving or owns wealth that is less than the nisab and the poor class in which each member has little savings or lives below the poverty line. Zakat is imposed on the rich and its proceeds are disbursed among the poor. The middle class neither pays zakat nor receives it. Then capital stock of each class has to be approximated in order to determine aggregate supply of output in the country. For this purpose, Horrod-Domer growth model or a fixed output capital ratio has been used.[13] However, keeping in line with decreasing marginal productivity of capital, the output capital ratio for capital stock of rich class has been assumed the lowest and that for capital stock of the poor class the highest. With regard to functional distribution of income, it is assumed that a big part of output generated from capital stock of each class is retained by it in the form of profits. It is also assumed that wage earners of a lower class get a part of output generated from capital stock of a higher class in the form of wages but not the vice versa.[14] Capital stock of each class has been augmented by its annual saving and in accordance with AIH, saving rate for the rich class has been assumed the highest and that for the poor class the lowest. The simulation has been carried out just for 8 years because the difference in growth rate of per capita income without and with zakat becomes quite vivid over this period.

More specifically, to divide population into three classes, data on idle savings and capital stock is required that is not reported as such in any data source. Therefore, data from HIES 2011-12 reproduced in Table 1 and estimates of poverty line have been used for this purpose.

[13]For more details, see Ahluwalia, *et al.* (1979), Arif (1979), Chenery and Ahluwalia (1975) and Dagdeviren, *et al.* (2000).

[14]It is assumed to keep the simulation simple; otherwise there is no theoretical support in its favour.

Table 1

Household Size and Saving, and Monthly Per Capita Income by Quintiles 2011-12

Quintile	Income (Rs)	Expenditures (Rs)	Size	Per Capita Income (Rs)	Saving (Rs)
Bottom	13307	13123	8.16	1631	184
2nd	16815	16413	7.40	2272	402
3rd	19928	18901	6.77	2944	1027
4th	24531	21741	5.96	4116	2790
Top	43858	34774	4.84	9062	9984

Source: HIES 2011-12; Tables 2.2 and 12.

The estimated poverty line on the basis of average calorie consumption per adult is taken from Jamal (2013) this is Rs 2013 per month for the year 2010-11. The estimated inflation rate for 2011-12 is taken from economic Pakistan Economic Survey 2011-12 that is 10.8 percent. Hence, the poverty line for 2011-12 comes out Rs 2230 per month that is very close to average monthly per capita income of second quintile in table 1 above. Therefore the bottom and second quintiles have been assumed to represent the poor class in our simulation. The nisab for cash holdings and bank deposits is the price of 84 gm gold or 514 gm silver whichever is less. It comes out very close to annual household saving of the top quintile. Therefore, the top quintile of population represents the rich class in our simulation. Capital stock for each class has been approximated from household saving as given in Table 1; it is 12 times the annual saving of each class. As a result, five quintiles in Table 1 are reduced to three classes in Table 2.

Table 2

Household Size and Saving, and Annual Per Capita Income by Class 2011-12

Class	Income (Rs)	Expenditures (Rs)	Size	Per Capita Income (Rs)	Saving (Rs)
Poor	180732	177216	7.78	23418	3516
Middle	266754	243852	6.365	42360	22902
Rich	526296	417288	4.84	108744	119808

Source: HIES 2011-12; Tables 2.2 and 12 and calculations by the author.

To reflect the fact that marginal productivity of capital falls and excess capacity increases as capital accumulation of a class increases, the output capital ratios for capital stocks of the poor, middle and rich classes in the first year of simulation have been assumed as 0.7, 0.55 and 0.45 respectively. In every subsequent year, the output capital ratio of a class falls by the formula:

$$a_{p(t+1)} = a_{pt} + [(a_{mt} - a_{pt})(hy_{p(t+1)} - hy_{p1}) / (hy_{mt} - hy_{p1})$$

where a denotes output capital ratio and hy denotes household income; the first subscript denotes the class such as p for the poor and m for the middle class and the second subscript t denotes the current period and t+1 denotes the subsequent period.

Regarding the distribution of output produced, it is assumed that the poor class receives all the output generated from its capital stock in the form of wages and profits. In addition, the poor class receives 20 percent and 12 percent of the outputs of middle and rich classes as wages. The middle class retains 80 percent of its output as wages and profits and also receives 6 percent of the output generated from the capital stock of rich class as wages. The proportion of wages from the output of rich class going to the poor class has been kept higher than that going to the middle class because capital stock of middle class is good enough to absorb most of the wage earners of its class. The rich class retains 82 percent of its output as wages and profits. These figures have been chosen though arbitrarily, yet the resulting growth rate in per capita income comes out very close to the actual one that is in the range of 4 to 6 percent without zakat. The initial capital stock of each class increases in every subsequent year by its annual savings.

Since it is evident from Table 2 that average family size of a household falls as its income rises and average saving rate of a household rises as its income rises, therefore the family size of a class in our simulation decreases yearly by the formula:

$$fs_{p(t+1)} = fs_{pt} + [(fs_{mt} - fs_{pt})(hy_{p(t+1)} - hy_{p1}) / (hy_{mt} - hy_{p1})]$$

where *fs* denotes family size and *hy* denotes household income; the first subscript denotes the class and the second subscript denotes the period. For the first year of our simulation, family size of each class is exactly the one given in Table 1. For the rich class, the minimum household size has been assumed to be 4 and annual maximum household income to be Rs 800000. Similarly the saving rate of a class denoted by *hs* increases yearly by the formula:

$$hs_{p(t+1)} = hs_{pt} + [(hs_{mt} - hs_{pt})(hy_{p(t+1)} - hy_{p1}) / (hy_{mt} - hy_{p1})]$$

For the first year of our simulation, saving rate of the poor, middle and rich class is 1.9, 8.6 and 22.8 percent respectively as calculated from the data on household income and expenditures in Table 2. The maximum saving rate for the rich class has been assumed to be 30 percent arbitrarily.

The results of our simulation are presented in Table 3. The upper part of the table shows per capita income for each class in a conventional economy in which zakat is not introduced, whereas the lower part shows the results when 2.5 percent of household income of the rich class is transferred to that of the poor class.[15]

As the comparison of the last row of each portion in Table 3 shows that growth rate with zakat for each year of simulation is slightly greater than that without zakat. The reason is that the pronounced negative effect of zakat in the form of reduction in overall saving rate is offset by two least discussed positive effects; an increase in overall productivity of capital and a fall in overall household size. Indeed, overall saving rate falls as income of the rich class which has the highest saving rate is transferred to the poor class which has the lowest saving rate in the economy but overall productivity of the capital in the country increases because, after payment of zakat, saving and thus addition

[15]As mentioned above in section 3(ii) that there is difference of opinion about application of zakat on business assets or capital stock of a person. One view is that it is levied on the value of capital stock and the other view is that it is levied on the income generated from the capital stock. We have adopted the second view which is supported by majority of Muslim jurists.

Table 3

Per Capita Annual Income Without and With Zakat

	Class\Year	1	2	3	4	5	6	7	8
Without Zakat	Poor	23418	26255	28278	30456	33304	36537	40505	45195
	Middle	42360	44668	47149	49773	52836	56194	60017	64311
	Rich	108744	109903	122096	130705	142237	153602	166503	179987
	Average	48060	50350	54590	58232	62903	67813	73509	79800
	Growth		4.76	8.42	6.67	8.02	7.80	8.40	8.36
With Zakat	Poor	23418	28859	31304	34031	37730	41887	47069	53186
	Middle	42360	44668	47215	49798	52879	56226	60053	64345
	Rich	108744	106260	119173	126747	137898	148503	160735	173417
	Average	48060	50663	55242	58881	63823	68946	74995.8	81695.9
	Growth		5.42	9.04	7.59	8.39	8.03	8.78	8.93

Source: Calculations by the author.

to existing capital stock of the rich class which has the lowest output capital ratio and which is usually subject to excess capacity decreases whereas, after receiving zakat, saving and thus addition to existing capital stock of the poor class which has the highest output capital ratio and which is hardly subject to excess capacity increases. The negative relationship between household income and family size as is evident from HIES data given in table 1 further enhances economic relevance of zakat. An increase in family income of the poor class due to zakat helps them control their family size and thus raise their per capita income. Consequently saving and capital formation of the poor class also increases.

5. CONCLUSION

In Economics, the original view about functioning of markets was that supply creates its own demand or persistent unemployment cannot exist in a country. This view, however, could not explain severe unemployment during Great Depression and thus lost its allure. Keynes gave the alternative view that aggregate demand plays the dominant role in determination of a country's output and the main determinant of consumption is current income. The main feature of Keynes' consumption function, AIH, is that apc falls or aps rises as income rises. It indicated that income distribution is relevant for aggregate economic activity in an economy. However, contradictory policy implications are drawn from AIH. One is that a developing country can grow fast if its income distribution is tilted toward the business class. This policy ultimately helps the poor too; the channel is that an increase in investment by the rich creates jobs for the poor. The other is that worsening income inequality leads the economy to stagnate because of falling aggregate demand and increasing excess capacity. Many researchers on the basis of cross-sectional household data confirmed AIH. However, Kuznets on the basis of time series aggregate data concluded that apc remains constant as GDP of a country increases year after year. Indirectly, it revived the classical view that income distribution does not matter for economic activity and growth in the long run.

The subsequent theories of consumption, particularly PIH and LCH, reconciled findings of both cross-sectional micro data and time series aggregate data implying that Keynesian consumption function better explains short term consumption behaviour and classical view better explains long term consumption behaviour of individuals.

Meanwhile, Kuznets discovered in his later study that income distribution worsens at initial stages of economic development but improves automatically at later stages without requiring any deliberate income redistribution scheme from the government. This finding further minimized the Keynesian stance that income distribution matters for economic growth.

After these theories, one implication of Keynesian Economics that aggregate demand matters more in determination of equilibrium output was remembered very well but its other implication that an equitable income distribution is inevitable to ensure sustainable growth in aggregate demand was almost forgotten by academia in general and by policy makers in particular. Since then, many governments of market economies have used extensive demand management policies both fiscal and monetary and implemented export-promotion schemes to boost aggregate demand. On the contrary, they have hardly introduced any income redistribution scheme in their respective countries. Therefore, stagnation thesis with all its theoretical elegance has not been taken seriously so far.

However, incidence of recent global financial crisis, sluggish growth since its ending and worsening income distribution in last few decades in many market economies along with rising per capita income particularly in USA have brought the debate about stagnation thesis to limelight again. The attitude is, however, cautious as currently only inequitable income distribution within wage earners is targeted and no issue is taken with worsening of functional income distribution that is between capitalists and wage earners. In other words, the issue of excess capacity that is most probably an outcome of worsening size and functional distributions of income has not been paid due attention yet.

After browsing the main arguments regarding the logic of income distribution for economic activity in conventional economics, one can understand very well the theory behind the institution of zakat in Islamic framework. It endorses Keynesian standpoint that an equitable income distribution is a prerequisite for smooth expansion of aggregate demand and thus for sustainable economic growth in an economy. Furthermore, zakat being a tax on idle savings and capital assets highlights the fact that marginal productivity of capital decreases as it concentrates in few hands. Zakat also lays down the details of an effective mechanism of income redistribution. To investigate implications of zakat for economic growth, a simulation model about functioning of a market economy has been carried out. It incorporates three important functions of income. One is that aps increases as income rises; it is verified by HIES data used for this simulation. The other is that aps or capital concentration increases as income increases which, in turn, causes a decrease in marginal productivity of capital; it is not supported by the data used for this simulation but having similarity with the law of diminishing marginal utility of a commodity and being vivid from excess capacity in big firms, it sounds good. The last one is that family size is a negative function of income; it is also evident from the data used for this simulation. In literature, the first of these three functions is given more attention whereas the last two are neglected somewhat.

The results of our simulation that gives equal importance to all three functions clearly indicate that zakat is not detrimental but congenial for economic growth. They confirm that an expected decrease in aggregate savings and thus in capital stock due to any income redistribution scheme has been exaggerated whereas its positive effects on productivity of capital and on family size have been ignored to a great extent. Our results

therefore suggest that proper implementation of zakat, on one side, may minimise the need of discretionary demand management policies without ruling them out completely and, on the other side, may take care of the problem of excess capacity in an economy.

REFERENCES

AceMoglu, Daron and James A. Robinson (2002) The Political Economy of the Kuznets Curve. *Review of Development Economics* 6:2, 183–203.

Aghion, P. and P. Bolton (1994) A Trickle-down Theory of Growth and Development with Debt-Overhang. Working Paper, London School of Economics.

Ahluwalia, Montek S. *et al.* (1979) Growth and Poverty in Developing Countries. *Journal of Development Economics* 6, 299–341.

Arif, Muhammad (1979) *Economics of Growth and Basic Needs in Pakistan.* Lahore: Progressive Publishers.

Chenery, Holis and Montek S. Ahluwalia (1975) *Redistribution with Growth.* London: Oxford University Press.

Dagdeviren, Hulya, *et al.* (2000) *Redistribution Matters: Growth for Poverty Reduction.* www.soas.ac.uk/economics/research/workingpapers/file28875.pdf

Friedman, Milton (1957) *A Theory of Consumption Function.* Princeton: Princeton University Press.

Pakistan Bureau of Statistics (2011) *Household Income and Integrated Survey (HIES) 2011-12.* Islamabad.

Jamal, Haroon (2013) Pakistan Poverty Statistics: Estimates for 2011. Social Policy and Development Centre, Islamabad. (Research Report).

Keynes, John M. (1936) *The General Theory of Employment, Interest and Money.* Macmillan, London.

Krugman, Paul (2009) The Paradox of Thrift. *New York Times,* July 7.

Kuznets, Simon (1946) *National Income: A Summary of Findings.* New York: National Bureau of Economic Research.

Kuznets, Simon (1955) Economic Growth and Income Inequality. *American Economic Review* 65, 1–28.

Mankiw, N. Gregory (2006) *Macroeconomics* (5th ed). New York: Worth Publishers.

Modigliani, Franco (1966) The Life Cycle Hypothesis of Saving, the Demand for Wealth and the Supply of Capital. *Social Research* 33:2, 160–217.

Moududi, Syed A. A. (1990) *Economics of Islam (Urdu).* Lahore: Islamic Publications.

Pakistan, Government of (2011) *Pakistan Economic Survey 2011-12.* Finance Division, Islamabad.

Palley, Thomas I. (2001) Contradictions Coming Home to Roost? Income Distribution and the Return of Aggregate Demand Problem. (Levy Institute Working Paper 332). Available at www.levyinstitue.org/pub/wp332.pdf

Palley, Thomas I. (2002a) Economic Contradictions Coming Home to Roost? Does the US Economy Face a Long-term Aggregate Demand Generation Problem. *Journal of Post Keynesian Economics* 25:1, 1–9.

Palley, Thomas I. (2002b) A New Development Paradigm; Domestic Demand-Led Growth. (Foreign Policy in Focus Discussion Paper).

Perotti, R. (1993) Political Equilibrium, Income Distribution and Growth; Theory and Evidence. *Review of Economic Studies* 60, 755–66.

Piketty, T. and E. Saez (2003) Income inequality in the United States, 1913–1998. *Quarterly Journal of Economics* 118:1, 1–39.

Saez, E. and G. Zucman (2014) Wealth Inequality in the United States since 1913; Evidence from Capitalised Income Tax Data. (CEPR Discussion Paper 10227).

Schifferes, Steve (2008) *The Paradox of Thrift*. www.bbc.co.uk/2/hi/business/7745858.stm

Shafi, Muhammad (1963) *Zakat System in Quran (Urdu)*. Karachi: Darul Ishaat. Wikipedia (n.d.) *Capacity Utilization* www.wikipedia.org.