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Salman Ahmed Shaikh

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Abstract

In classical and neoclassical growth theory, it is argued that inequality is necessary to kick-start economic growth. In the Lewis model (1954), the capitalist class is expected to instigate economic growth through production in modern manufacturing sector. Kuznets (1955) argues that economic growth will trickle down to the masses once economic growth is sustained and allowed to mature. Solow (1956), Romer (1986), Lucas (1988) and Romer (1990) had emphasized on capital formation, technical progress, human capital, ideas and strong public and social infrastructure to achieve economic growth. Later on, economists like Meadows et al (1974) cautioned on the limits to growth amidst finite resources. However, since the policy direction did not take much notice of these concerns, the rapid growth in monetization and international trade has now put the future economic growth in serious jeopardy. An even bigger challenge is to ameliorate the great gap between rich and poor countries that has happened in the course of twentieth century economic growth program. As against the inverted U-hypothesis, even the successful growth stories of OECD, North American and parts of Asia are not able to avoid unequal distribution of resources. Recently, Piketty (2014) had also confirmed that inequality has grown over a long period of time on sustained basis in developed world with capital accumulating more and more of the pie. In this backdrop, we identify specific institutions in Islam that can help in achieving egalitarian distribution of income along with continued growth. We discuss that the principle of risk based productive enterprise can foster capital formation and entrepreneurship in an Islamic economy that disallows fixed return on money capital in the form of interest. We discuss that interest free financial intermediation can stabilize the economy from credit default shocks by ensuring broad risk sharing and linking monetary payments to factors of production with the result of productive enterprise. We discuss that a uniform Zakat levy on wealth and produce can result in tax rate smoothing, automatic stabilization of business cycle and encourage long term investments and decision making without leaving the long term planner in private sector to worry about fiscal policy reversals (i.e. Ricardian equivalence). In this paper, we also highlight the effects of inheritance laws of Islam on intergenerational redistribution of endowments. We argue that endowment redistribution in every generation in each family unit will automatically keep the inequitable distribution of resources in check without depending on the pace, nature and distribution of economic growth. We use mathematical modeling to show the effects of these institutions on economic outcomes.

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[1] Salman Ahmed Shaikh is a PhD scholar in Economics. He can be contacted at: islamiceconomicsproject@gmail.com

1. Introduction

It is an undeniable empirical reality that income distribution has worsened in recent decades. Piketty (2014) writes that 60% of the increase in US national income in the 30 years after 1977 went to just the top 1% of earners. The only section of the US population that has done better than the top 1% is the top 10th of that 1%. The other revealing statistic cited in the book is that the top 0.1% of Americans claim 9% of income which is up from 2% at the middle of the twentieth century. The top 0.1% holds a near-record 22% of the wealth while the top 0.01% claim a bigger income share than any other time in the history. It is also astonishing that corporate profits have swelled in post WWII period and the average CEO earns as much as earnings of 331 workers, up from a 24 to 1 ratio in the 1960s. The book argues that the world today is returning towards "patrimonial capitalism", in which much of the economy is dominated by inherited wealth. While the top 10% have amassed more wealth in the last 50 years, America's bottom 90% is falling deeper and deeper into debt.

Income inequality even in OECD (Organization for Economic Cooperation & Development) countries is at its highest level for the past half century. The average income of the richest 10% of the population is about nine times that of the poorest 10% across the OECD, up from seven times 25 years ago. Past growth experience of Japan and USA or even recent growth experience of India and China has shown increase in income inequality in these countries. Economic growth has failed to improve income distribution in these countries.

In this backdrop, we identify specific institutions in Islam that can help in achieving egalitarian distribution of income along with continued growth. Section 2 reviews the theoretical and empirical literature on income distribution and economic growth. Section 3 discusses the effects of Zakat on wealth redistribution. Section 4 explains the effects of Islamic inheritance laws on wealth redistribution. Section 5 explores how to achieve egalitarian income distribution in an Islamic economy. Section 6 discusses the Islamic perspective on wage inequality in particular. Section 7 discusses how Islam removes the extractive institutions that perpetuate income and wealth inequality in an economy, especially the institution of interest and freedom to devise tax policy for elite interest groups in capitalistic democracies that put the welfare of future generations in jeopardy by excessive deficit financing and inflation tax.

2. Literature Review

In classical and neoclassical growth theory, it is argued that inequality is necessary to kick-start economic growth. In the Lewis model (1954), the capitalist class is expected to instigate economic growth through production in modern manufacturing sector. Kuznets (1955) argues that economic growth will trickle down to the masses as economic growth is sustained and allowed to mature.

Explaining the reason why income inequality in the initial stages of development may be necessary, Persson & Tabellini (1991) explain through a model that people with sufficiently low income do not accumulate any capital per worker. Hence, at very low levels of development, redistributing income towards the rich may increase aggregate savings and hence lead to more rapid growth, if the rich have a higher marginal propensity to save than the poor.

In the economic literature, productivity changes, differential savings behavior, exploitation of workers are some of the variables suggested to explain Kuznet U hypothesis (Robinson, 1976). In the empirical economic literature on the relationship between inequality and growth, we have no definite conclusive theory.

Some studies do point out the growth-enhancing function of income inequalities. Forbes (2000) suggests that in the short and medium term, an increase in a country's level of income inequality has a significant positive relationship with subsequent economic growth. Barro (2000) in an empirical study shows little overall relation between income inequality and rates of growth and investment. His results indicate that higher inequality tends to retard growth in poor countries and encourage growth in richer places. However, this relation does not explain the bulk of variations in inequality across countries or over time.

On the political economy of income inequality, Persson & Tabellini (1991) suggest that to begin the economic growth process, restricting the political participation of the poor is a useful and effective policy tool since such restrictions were common in the political history of the Western democracies. A stiffer limit on political participation would prevent the distributional conflict from manifesting itself in policies that limit the incentives for accumulation, and could thus keep up growth even in the presence of acute inequality. The noted authors contend that as development progresses and inequality is reduced, political rights could be extended to larger fractions of the society without endangering economic growth.

Aghion et al (1999) maintain that temporary reduction in after-tax inequality that would foster investment incentives and growth in the short run would result in a rise in inequality as a consequence of the induced technical progress. What is needed is a permanent redistribution policy in order to control inequality and foster social mobility and growth.

However, the empirical evidence especially in recent decades challenges the pro-growth function of income inequality. As against the inverted U-hypothesis, even the successful growth stories of OECD countries, North America and parts of Asia are not able to avoid unequal distribution of resources. Lucas (1993) presents an interesting case study of South Korea and Philippines. Both countries were similar with respect to GDP per capita, population, urbanization and school enrollments. However, despite the identical point of beginning, Korea experienced 'miraculous' growth averaging about 6% per year, while the Philippines stagnated at about 2% per year over the next quarter century. Lucas (1993) argues that looking beyond the aggregate indicators in these countries; the initial conditions were in fact quite different. The income distribution was relatively more unequal in the Philippines. Hence, it shows that high inequality of income can hamper growth which is against the conventional Kuznet curve hypothesis.

Benabou (1996) provides review of recent empirical literature that has challenged the pro-growth effect of rising inequality of income. Usually such studies are based on cross-country regressions of GDP growth on income inequality. They unanimously find a negative correlation between the average rate of growth and a number of measures of inequality.

Recently, Piketty (2014) had also confirmed that inequality has grown over a long period of time on sustained basis in developed world with capital accumulating more and more of the pie. While the economic role of financial development in enabling efficient intertemporal transfer of funds and risk cannot be undermined, it is also a fact that financial development that strengthens the elite class can attenuate income distribution further. Beck et al (2007) argues that it is possible that financial development may boost the growth rate of aggregate per capita GDP, but this does not necessarily imply that financial development helps the poor. This can be more severe where capital markets are imperfect.

Aghion et al (1999) list three reasons why inequality may have a direct negative effect on growth. First, inequality reduces investment opportunities. Second, inequality worsens borrowers' incentives. Third, inequality generates macro-economic volatility. Aghion et al (1999) suggest that redistribution to the less endowed, by reducing inequality, can therefore be growth enhancing in such an economic environment.

Persson & Tabellini (1991) contend that inequality is harmful for growth. They argue that a society where distributional conflict is more important, political decisions are more likely to produce economic policies that allow private individuals to seek rents.

Highlighting the institutional and historical explanations of changes in income distribution of regions, Acemoglu et al (2002) contend that among the areas colonized by European powers during the past 500 years; those that were relatively rich in 1500 are now relatively poor. According to Acemoglu et al (2002), this institutional reversal resulted from the differential profitability of particular choice of colonization strategies in different environments. In prosperous and densely settled areas, Europeans introduced or maintained already existing extractive institutions. In contrast, in previously sparsely settled areas, Europeans settled in large numbers and created institutions of private property, providing secure property rights to a broad cross section of the society and encouraging commerce and industry.

Along the same lines, Engerman & Sokoloff (2002) document - through comparative studies of suffrage, public land, and schooling policies - a systematic pattern by which societies in the Americas that began with more extreme inequality or heterogeneity in the population were more likely to develop institutional structures that greatly advantaged members of the elite classes by providing them with more political influence and access to economic opportunities.

On the political economy of income inequality, Alesina & Rodrik (1991) show that democracies with an uneven distribution of wealth should exhibit lower growth than democracies with more equally distributed resources. This is because a large working class with little capital would vote for high taxes on capital. Such high taxes would reduce the incentives to invest and hence retard capital accumulation process and sustainable ongoing economic growth. As a result, dictatorships in which the wealth owners control policy should experience high growth, regardless of the distribution of resources. On the other hand, populist non-democratic governments should experience lower growth because of the pressure from the working class to tax the rich capitalists.

On the determinants of income inequality, Aghion et al (1999) argue that technical change and the implementation of General Purpose Technologies (GPT) crucially explains the recent upsurge in wage inequality. They suggest that the effect of biased technical change on income inequality is nonlinear. The arrival of a new GPT increases the skill premium because of the high demand for skilled labor during the first stages of social learning. Then, as time passes, the skill premium starts to go down as most sectors have made the transition to the new GPT and the supply of skilled labor shifts rightward. Citing US data, Aghion et al (1999) highlight that there is a reduction in the skill premium since the mid 1990s. While it is posited that wage inequality will reduce with the increase in skilled labor supply and assimilation of technology, same is not the case with capital. Indeed, capital accumulation and financial depth has increased the capital inequality further in the US and other developed countries as documented recently by Piketty (2014).

3. Effects of Zakat on Wealth Redistribution

In this section, we present a simple illustration of how the institution of Zakat in an Islamic economy reduces wealth concentration. For a particular individual, net Zakat wealth at a point in time is given by equation (i):

$$W_t = I_t - 0.025(NZW_{t-1}) + W_{t-1} - C_t \quad \text{---- (i)}$$

Here,

I_t is income of individual in time period 't'.

NZW_{t-1} is the base of wealth that will be used for Zakat deduction.

W_{t-1} is the wealth of individual 'i' in previous time period.

C_t is the consumption in time period 't'.

Simplifying equation (i), we get:

$$W_t = I_t - 0.025(W_{t-1} - N_{t-1}) + W_{t-1} - C_t$$
$$W_t = I_t - 0.025W_{t-1} + W_{t-1} + 0.025N_{t-1} - C_t$$
$$W_t = I_t + 0.975W_{t-1} + 0.025N_{t-1} - C_t$$

Expanding it iteratively forward, we get

$$W_{t+1} = I_{t+1} + W_t - 0.025(W_t - N_t) - C_{t+1}$$
$$W_{t+1} = I_{t+1} + 0.975W_t + 0.025N_t - C_{t+1}$$
$$W_{t+1} = I_{t+1} + 0.975(I_t + 0.975W_{t-1} + 0.025N_{t-1} - C_t) + 0.025N_t - C_{t+1}$$
$$W_{t+1} = I_{t+1} + 0.975I_t + 0.950625W_{t-1} + 0.024375N_{t-1} + 0.025N_t - 0.975C_t - C_{t+1}$$

It can be seen that the wealth function will decumulate base year wealth and overall wealth can only increase with increase in income, labor plus non-labor.

4. Effects of Islamic Inheritance Laws on Wealth Redistribution

In this section, we present a simple two-period lifecycle model which illustrates the effects of Islamic laws of inheritance and Zakat on reducing wealth inequalities. We start with two equations that describe the budget constraint for the head of household. Equations (ii) and (iii) describe the lifetime consumption cycle for the head of household in a two-period model. We assume that the head of household lives for two periods. He allocates lifetime resources earned through labor income and non-labor income on lifetime consumption. Left hand sides of the equations (ii) and (iii) describe the value of lifetime expenditure and right hand sides of the equations (ii) and (iii) describe the value of life time resources.

$$P_1 C_1^H + 0.975 A_1^H = Y_1^H + (1 + p_r) A_0^H \qquad ---- \text{(ii)}$$

$$P_2 C_2^H + 0.975 A_2^H = Y_2^H + (1 + p_r) A_1^H \qquad ---- \text{(iii)}$$

Here,

P_1 and P_2 are prices of aggregate consumption goods in period 1 and 2.

C_1^H and C_2^H are consumption by the head of household in period 1 and 2.

A_0^H and A_1^H are the wealth / assets brought in the beginning of period 1 and 2 respectively.

p_r is the ex post average rate of return on an investment opportunity in the real sector of the economy.

A_1^H represents the value of net assets at the end of period 1. The head of household will have to pay 2.5% Zakat on these assets and hence, only the value of $0.975 A_1^H$ worth of assets will be transferred to period 2 from period 1.

Likewise, A_2^H represents the value of assets / wealth in the ownership of head of household at the end of period 2 (the terminal period of life). Hence, the value of A_2^H will equal the value of bequests, B^H.

According to Islamic law, the leftover assets of the deceased are distributed among the close relatives including parents, spouse, children and siblings. Each one of those close relatives gets a prescribed share. We denote the share by $\propto_i$. Hence, we can write B^H as:

$$B^H = \sum_i^n \propto_i B^H \qquad ---- \text{(iv)}$$

This presentation of lifetime resource allocation on consumption shows that in an Islamic economy, there is no risk free non-labor income. The only way a person can add to lifetime resources beyond his labor income is through profit on entrepreneurial investment in either one's own business or by participating in other's business via the partnership modes of Mudarabah and Musharakah.

Secondly, this model also shows that if a person keeps investible wealth idle, then Zakat will decumulate the idle capital. Hence, in an Islamic economy, the system of Zakat ensures circulation of wealth in productive use and increase the supply of investible wealth in the production sector of the economy. The subsequent increase in investible wealth will increase employment opportunities and hence provides a market based solution to kick start economic growth in the economy.

The model shows that during the lifetime, wealth concentration is reduced through disallowing provision of risk-free non labor income as a function of wealth. Wealth concentration is also checked through Zakat on idle investible wealth. Lastly, the leftover wealth after the lifetime will be distributed among the close relatives. This also systematically and permanently checks wealth concentration in each household across space and time at the most micro level possible.

Hence, when wealth distribution gets equitable, the income distribution too is expected to become more equitable in an interest free economy. With prohibition of interest based earnings, the wealth can only be invested in productive enterprise. What expedites this investment is the fact that if wealth is not invested in a productive enterprise, wealth Zakat would automatically take the part of idle wealth from the wealth owner and distribute it in society among the people who need it and who can make productive use of it.

Hence, not only the income and wealth distribution become more equitable, the efficiency in use of productive resources also increases in an Islamic economy. It is important to note that these are the mechanisms which perform their work without the intervention of the state and use of any clever discretionary ad-hoc policy.

5. Achieving Egalitarian Income Distribution in an Islamic Economy

In this section, we see how income is earned by households in an Islamic economy. Income function of an individual 'i' can be represented by:

$$I_t = wL_t + E(\pi_t) + rA$$

Where,

'r' is rent on physical asset holdings 'A'. Market wage is 'w'. Labor supply is L_t. L_t is expected to be higher in an Islamic economy than in a capitalist economy. The reason is that the feasible income sources in an Islamic economy will not allow a perpetual income source which is a direct function of past accumulated wealth.

$E(\pi_t)$ is income from direct and indirect participation in entrepreneurial activities for individual in time period 't'. $E(\pi_t)$ can be represented as:

$$E(\pi_t) = \sum_{j=1}^{k} p_j \pi_j$$

Provided that $0 < p_j \leq 1$.

Where

p_j is the profit sharing ratio in project 'j' agreed for time period 't' at time period 't-1'.
π_j is the profit in project 'j'.
If a person is sole entrepreneur in some project 'j'. Then, p_j will be equal to unity.

It can be seen that in an Islamic economy, there is no provision for risk-free income. The legitimate sources to earn include income from providing factor services like labor, use of land in ownership, possession and risk and any other income from entrepreneurial undertakings in investment opportunities in the real sector of the economy.

If the average ex post realized return from investment opportunities is low, the household will have to increase labor supply to compensate for the lower income from entrepreneurial investments. Increase in labor supply will reduce wage bill for the production sector and hence will increase the ex post realized rate of return from entrepreneurial investments. Hence, this adjustment process of capital mobility and labor market transitions will lead to an equilibrium state where the share in income of the workers and capitalists are closer to each other except for differences in risk tolerance, risk preference, effort and skills.

6. Wage Differentials or Discrimination: Islamic Perspective

One of the explanations often given for presence of income inequality is that people have different skills and their productivity levels are different. Some people are ambitious and using their innate abilities and opportunistic circumstances, they tend to acquire highly employable skills and are therefore worthy of relatively above average compensation. While some people who do not have the mentioned characteristics or circumstances may get relatively lesser compensation.

The promise of equal wage and standard of living in communism is very attractive at its face value and especially to the masses that generally do not have highly employable and demanded skills, access to quality education and opportunistic circumstances. The argument that each person as a human being shall have equal rights and equal standard of living seems convincing.

However, it is a fact that people have different tolerance for risk, different innate abilities, different attitudes towards progression in life and career, different levels of ambitions and as a result, they exert different levels of effort in acquiring education, skills set and as a result, their productivity levels are different. The variations in characteristics highlighted above may not necessarily be a result of discrimination. Most of these could be controlled and shaped by individuals and their intertemporal choices. Equating everyone's compensation despite these variations and as a result of independent economic choices would be unjustified.

Nevertheless, Islam addresses the problem of inequality of income and discriminatory access to resources in a different and direct way. We have seen that inequality of income can result into biased access to education, health and welfare services. It is possible that people with low

income are unable to have access to quality education, quality health facilities, unable to invest in skill enhancement and human capital development and due to that, they may remain in a poverty trap and unable to get out of it in a free market economy.

With regards to discrimination, as per Islam, there shall not be discrimination based on gender, religion, region and ethnicity. But, if people have different levels of productivity, then their wages can be different and determined in the labor market through demand and supply.

With regards to inequality of income, we know that income inequality can result from wealth inequality when there is fixed return on loanable wealth in the form of interest. Interest based financial intermediation brings concentration of wealth eventually in every society by granting private right of fiat money creation to the central bank and allowing fractional reserve system which gives right to private banks to create credit money. This money capital can be loaned out and fixed interest can be earned on it. Hence, capitalists will be immune to losses, fluctuations and uncertainty of business cycles to a large extent. But, the other factors of production cannot have that luxury as their compensation from the productive activity is either linked with provision of services (in the case of labor) or provision of assets (land or physical capital) that have intrinsic value, but they are scarce and they also lose 'use value' with the passage of time unlike the money capital.

Hence, in a nutshell, Islam allows wage differentials based on productivity differences, but does not allow discrimination. Furthermore, if wage differentials are because of characteristics that require equitable distribution and access to resources, then, Islam has unique mechanisms that ensure equitable distribution of resources and opportunities.

7. Removing Extractive Institutions for Reducing Inequalities

Most developing countries are going through a perpetual debt trap which takes away resources that could have been used on development, but instead are used to service compounded debt. We cite some of the literature that has documented the impact of interest based loans on development.

Ajayi & Oke (2012) found in an empirical study for Nigeria that external debt burden had an adverse effect on the per capita income and led to devaluation of the currency, increase in unemployment, social strife and poor educational system.

Easterly (2002) presented a similar empirical evidence which shows a negative effect of indebtedness on growth. Explaining the evidence, he stated that the paradox of debt is that heavily indebted poor countries (HIPCs) became more heavily indebted after two decades of debt relief efforts. He stated that even concessional financing, a form of debt relief also failed to reduce net present value of debt. According to him, the record is not encouraging for the success of current debt relief efforts. Cunningham (1993) collecting evidence for the period 1971-1987 from 16 HIPCs found a significant negative relationship between the growth of debt burden and economic growth in these countries.

It is not just Africa that is suffering from the debt crisis. Other developing regions are also having the same negative impacts. Malik et al. (2010) provided the empirical evidence for Pakistan's economy which shows negative and significant relationship of external debt with economic growth. Currently, Pakistan pays around 50% of tax revenues in debt servicing which is far below its development spending. Most of the debt is of the nature of deadweight debt (i.e. used to pay off other debts or for non-development spending).

The disincentive to enter in entrepreneurial pursuits because of lack of willingness of capitalists to risk capital while having the opportunity to earn fixed interest income brings down investment in the economy. Decline in the potential investment in productive pursuits reduces real sector economic growth, keeps unemployment high and it adds burden on fiscal position of the government to expend on transfer payments. Then, if more money is printed, it increases national indebtedness and which can eventually result in a country paying major portion of its gross national income every year in the form of interest, which is a price of valueless fiat money in a loan transaction.

Islam removes the extractive institutions that perpetuate income and wealth inequality in an economy, especially the institution of interest and freedom to devise tax policy for elite interest groups in capitalistic democracies that put the welfare of future generations in jeopardy by excessive deficit financing and inflation tax. A uniform Zakat levy on wealth and produce can result in tax rate smoothing, automatic stabilization of business cycle and encourage long term investments and decision making without leaving the long term planner in private sector to worry about fiscal policy reversals (i.e. Ricardian equivalence).

Conclusion

Industrialization gave birth to sustainable economic growth in the countries that led the technology frontier. This growth was not equally shared across countries and hence created the gap between the pioneers and the laggards. In the 21st century, we face the challenge to ameliorate the great gap between rich and poor countries that has happened in the course of twentieth century economic growth program. We identified specific institutions in Islam that can help in achieving egalitarian distribution of income along with continued growth. We discussed that the principle of risk based productive enterprise can foster capital formation and entrepreneurship in an Islamic economy that disallows fixed return on money capital in the form of interest. We discussed that interest free financial intermediation can stabilize the economy from credit default shocks by ensuring broad risk sharing and linking monetary payments to factors of production with the result of productive enterprise. We discussed that a uniform Zakat levy on wealth and produce can result in tax rate smoothing, automatic stabilization of business cycle and encourage long term investments and decision making without leaving the long term planner in private sector to worry about fiscal policy reversals (i.e. Ricardian equivalence). We also highlighted the effects of inheritance laws of Islam on intergenerational redistribution of endowments. We argued that endowment redistribution in every generation in each family unit will automatically keep the inequitable distribution of resources in check without depending on the pace, nature and distribution of economic growth.

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