WELFARE IMPLICATIONS OF ECONOMIC GROWTH: AN EMPIRICAL ASSESSMENT FOR PAKISTAN

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Abstract

Purpose of the study: GDP Growth does not necessarily bring improvements in the lives of people belonging to lower social strata. The objective of this study is to analyse the welfare implications of economic growth in Pakistan. We aim to investigate that to what extent economic growth has been successful to bring improvements in the welfare of the poor segments of the society.

Methodology: By using the data of different waves of Household Integrated Economic Survey (HIES), Pakistan Integrated Household Survey (PIHS), Pakistan Social and Living Standards Measurement (PSLM) Survey over the period of 1990-2017, we have done an analysis of income shares received by different income groups. We have also constructed Ahluwalia-Chenery Equal Weighted and Poverty Weighted Welfare Indices ([Ahluwalia and Chenery, 1974](#)). In order to analyse the welfare implications of economic growth in the country, these indices have been compared with another index termed as Income Weighted Index (IWI).

Main Findings: Empirical results indicate that substantial income gaps exist among different income groups. In the absence of an effective fiscal policy, these gaps do not seem to be narrower.

Applications of this study: This research can be helpful for policy makers by providing them an alternative tool to assess the welfare of the masses.

Novelty/Originality of this study: The study stresses that in addition to economic growth, the fair distribution of income and inclusive growth needs to be considered while analysing the welfare of people living in Pakistan.

Keywords: *Economic Growth, Ahluwalia and Chenery Welfare Index, Equal Distribution, Pakistan.*

INTRODUCTION

Gross Domestic Product (GDP) or GDP per capita has been the most widely used measure for the country's economic progress. However, these measures do not depict a true picture of the welfare of people particularly in the presence of highly skewed income distribution ([Hicks and Streeten, 1979](#); [Sen, 1987](#); [Streeten, 1994](#); [Anand and Harris, 1994](#); [Costanza et al., 2009](#); [Stiglitz et al., 2010](#)). Economic growth can lead towards the enhancement of societal welfare if such growth is pro-poor and inclusive in its nature. Economic growth is thought to be pro-poor when it is good for poor and helps them to get out of poverty. It is considered inclusive when its benefits are spread among all segments of society irrespective of their socio-cultural identities such as ethnicity, race, region, political affiliation, religion and gender. Because of overwhelming dissatisfaction among economists towards the use of GDP and GDP per capita as a measure of economic development or welfare of a society, different measures have been devised and used for measuring societal welfare.

Bergson social welfare criterion ([Bergson, 1938](#)), Kaldor-Hicks compensation criterion ([Kaldor and Hicks, 1939](#)), Kuznets Ratio ([Kuznets, 1955](#)), Atkinson Index ([Atkinson, 1970](#)), Ahluwalia and Chenery Welfare Index (ACWI) ([Ahluwalia and Chenery, 1974](#)), Physical Quality of Life Index (PLQI) ([Morris, 1979](#)), Index of Sustainable Economic Welfare (ISEW) ([Daly and Cobb, 1989](#)), Genuine Progress Indicator (GPI) ([Daly and Cobb, 1989](#)), Human Development Index ([UNDP, 1990](#)), Sustainable Net Benefit Index (SNBI) ([Lawn and Sanders, 1999](#)), Happy Planet Index ([Jeffrey et al., 2016](#)) and Happiness Index ([Helliwell et al., 2017](#)) are some of the measures constructed and used for measuring the social welfare.

The welfare of society can be significantly interconnected with different socio-economic indicators such as life expectancy, net enrolment rate, availability of household services, poverty, and inequality of income and resources ([Klasen, 1994](#); [Marmot, 2005](#); [Rodriguez-Pose and Tselios, 2009](#); [Usman, 2009](#); [Linden and Ray, 2017](#); [Bor et al., 2017](#)). Distribution of income and resources is one of the significant elements which affect the welfare of the society over time ([Streeten, 1982](#); [Klasen, 1994](#); [Stiglitz et al., 2009](#); [Piketty, 2001](#); [Piketty, 2014](#)). In other words, welfare is dependent not only on an individual's personal income but also on the country's ability to take income from the richer class of the society and distributing it to the poorer class of the society. Income distribution is the key factor due to which GDP cannot be used as a measure of welfare ([UNDP, 2017](#)). Gini coefficient ([Gini, 1912](#)) is one of the most widely used measure for inequality of income and other resources. It can be used for the assessment of welfare in a society if welfare is to be judged in terms of distribution of income and resources. The use of any measure of income inequality to assess welfare is based upon the assumption that a fair distribution would enhance welfare and a skewed

distribution would reduce it. Thus, income distribution is the key factor due to which GDP can not be used as a measure of welfare ([Sen, 1976](#); [Stiglitz, 2005](#)).

The role of public policy is important in this regard. It can influence the welfare of the society by improving distribution through progressive taxation. An important role of the state is to improve the living standard of its citizens through its policy towards public health facilities, education, progressive taxation, law and order and employment ([Hatzius, 1997](#); [Hussain, 1999](#); [Ringen, 2006](#); [Kalia, 2015](#)). Historically, Pakistan's achievement in terms of economic growth remained good. It achieved a reasonably good economic growth particularly in 1960s and 1980s. But it could not bring about changes in different development indicators. That's why it was termed as a case of growth without development. Because of deterioration in its development indicators, the country has caught in a vicious cycle where its low progress in human development is further leading to slow down the pace of economic growth ([Ranis et al., 2000](#)). It may be due to the inability of its public policy to distribute GDP fairly. The growth of GDP can be an important contributor to the welfare of people if an effective public policy ensures that its benefits reach to common people ([Hussain et al., 2017](#)). This study aims to analyse the welfare implications of economic growth in case of Pakistan. It intends to find out that to what extent, economic growth has been pro-poor in the country.

For the definition and measurement of welfare, we have followed Ahluwalia and Chenery ([Ahluwalia and Chenery, 1974](#)) approach because it is a more objective measure than other available measures of welfare like GDP takes into account only the production of goods and services but not its distribution in the country, Bentham approach (1776), the welfare of the society can be measured by adding utilities of all individuals of the society. However, there is an inherited flaw in the approach suggested by Bentham, because in this approach all individuals are treated equally regardless of their initial level of income ([Burns, 2005](#)). Ahluwalia and Chenery Welfare Index (ACWI) take into account both the growth of GDP and its distribution. Hence unlike some other measures such as Happy Planet Index (2006) and Happiness Index (2004), ACWI may be more policy-oriented. Whereas, all others indexes are subjective. Ahluwalia and Chenery proposed two welfare indices named Equal Weight Index (EWI) and Poverty Weight Index (PWI). EWI assigns equal weightage to each individual or group of individuals of the country irrespective of his or their income. While PWI is measured by giving more weightage to the poor income class as compared to the rich income class ([Ahluwalia and Chenery, 1974](#)).

LITERATURE REVIEW

The measures of well-being and social welfare can be broadly placed into two categories. First kind of measures are of subjective nature and have been developed in a close relationship with psychological research ([Stiglitz et al. 2009a](#)). These are used to measure the subjective well-being in terms of life satisfaction and happiness. The second sort of approach relies upon some objective criterion. It uses some measurable indicators related with living standards and human lives. GDP and GDP per capita remained most commonly used indicators for this purpose. Although, GDP measures merely the economic activity in an economy and never intends to be a measure of welfare and well-being yet its use as a measure of overall societal well-being remained common among economists. [Smith \(1776\)](#), for example, defined welfare of the economy in terms of Gross National Product (GNP) because he believed that social welfare was an outcome of economic growth. While admitting that level and growth of income is too narrower approach to judge the human well-being in a society, [Lucas \(1988\)](#), also argues that it still stands as an important tool for economic development in a society. The use of GDP as a measure of welfare is justified by arguing that it is expected to be strongly correlated with number of indicators related with human lives and social welfare. It is argued that an improvement in GDP per capita would also bring improvements in human lives.

However, this does not necessarily seem to be true because improvements in human well-being are not solely determined by GDP or GDP per capita ([Easterly, 2001b](#)). Such improvements in human well-being and welfare are strongly influenced by public policy choices ([Ranis et al., 2000](#)). This has led to the emergence of wide dissatisfaction among economists towards the use of GDP and GDP per capita as a measure of social welfare. A strong critique of the use GDP approach has been provided in the writings of development economists. [Stiglitz et al. \(2009b\)](#), for instance, argue that in our measurement system, focus must be shifted from measuring the economic production to human well-being. They view welfare as a multidimensional phenomenon derived from one's satisfaction towards life, happiness and emotions such as pride and joy. It is further argued that social progress must be given top priority and we need to go beyond GDP for the measurement of social welfare ([Stiglitz et al., 2018](#)).

It is now widely accepted among economists that GDP approach for the measurement of well-being and welfare is flawed ([Stiglitz et al., 2018](#)). Hence, alternatives to the traditionally used measures of GDP and GDP per capita have become popular among economists as measures of well-being and welfare. These alternatives are put forward by arguing that GDP or GDP per capita cannot depict a true picture of human well-being and social welfare in the society particularly in the presence of high income inequality. These indicators can be merely a description of economic activities of an economy. Therefore, one needs to go beyond GDP for the measurement of welfare.

In addition to GDP per capita, different set of indicators such as literacy, life expectancy, infant mortality rate, maternal mortality rate, political participation, freedom of choice, and freedom of expression, environmental sustainability and gender discrimination are suggested to be considered for measuring welfare ([Streeten, 1994](#); [Haq, 1995](#)). Moreover,

distributional aspect of income and resources is also important and must be considered while judging the level of well-being and welfare in a society (Piketty, 2014; Fixler et al., 2019). This has led to the formulation of different holistic measures and indices. Human Development Index (HDI) constructed by Mahboob ul Haq and his colleagues at United Nations Development Programme is one among many of such kind of indices. The index has been accepted as one of the important measures to compare economic development across the countries of the world.

Income inequality is also recognized as a way to analyse the social welfare. This seems to be plausible as higher income inequality is found to be a detrimental factor for the performance of the countries in terms of different human development indicators (Piketty, 2014). That's why in addition to economic growth, different measures of welfare also give a due consideration to the distribution of income (Klasen, 1994). In the presence of fair distribution of income, a population is expected to have better education, health, nutrition and employment (Streeten, 1982; Dasgupta and Ray, 1987). Equality is also expected to be associated with higher incomes, higher economic growth better education and better health of people, better infrastructure, more social modernization and more democracy (Easterly, 2001a).

Income inequality asserts a negative effect on publicly provided education and democracy (Gradstein and Justman, 1997). Moreover, a wide dissatisfaction among people of lower social strata is also expected in the presence of high income inequality (Hirschman and Rothschild, 1973; Alesin and Perotti, 1994; Alesina and Rodrik, 1994) which would lower down their well-being as well as their perceived welfare.

The negative effects of income inequality on welfare can also be expected through its negative effects on economic growth (Alesina and Rodrik, 1994; Persson and Tabellini, 1994; Alesin and Perotti, 1994). With lower economic growth, poor segments of the society are likely to suffer more than those who are well-off. In such situation, on one hand, incomes of poor people are expected to remain low and, on the other hand, governments have less resources on their disposal to spend on education and health of the poor. Thus a worsened distribution may be understood as lower social welfare. Rawls (1971) calls for the need of preferential treatment for disadvantaged sections of the society in this scenario. In the same way, theories of inequality of opportunities (Roemer, 1993; 1998a; 1998b; 2013; Roemer and Trannoy, 2016) also suggest compensatory government policies for excluded and marginalized groups of the society as a solution to cope with this situation.

In the view of Haq (1995), economic growth can be a necessary but not sufficient condition to bring improvements in human well-being. Such improvements not only depend upon the abilities of the countries to produce but also their priorities regarding the adoption of policies to promote human development. Hence the role of public policy is very important to ensure that the benefits of economic growth are trickled down. Ranis et al., (2000) argue that the countries which adopted the policies of investing in education and health of their people could also achieve the goal of sustainable growth. However, the countries which did not adopt the policies to promote human development and focused to accelerate economic growth could not sustain their economic growth in the long run. By using cross-country data, they placed the countries of the world in four different categories i.e. countries with high economic growth and high human development, countries with low economic growth and low human development, countries with high economic growth and low human development, countries with low economic growth and high human development. Countries with high economic growth and low human development were labelled to fall in "economic growth lop-sidedness" and countries with low economic growth and high human development were labelled to fall in "human development lop-sidedness". They concluded that "human development lop-sidedness" was not problematic as the countries with "human development lop-sidedness" would ultimately achieve the goal of economic growth also. But "economic growth lop-sidedness", in their view, was problematic as the countries with "economic growth lop-sidedness" would ultimately fall in the category of "low economic growth and low human development" countries. They suggest that in order to achieve economic growth, a country must give priority to its human development by investing in education and health. Chenery et al. (1974) describe that despite impressive economic growth of many developing countries during 1950s and 1960s, there has been little improvement in the lives of poor people of many of those countries.

Pakistan is also one among those countries. That's why, Easterly, (2001a), while discussing the case of Pakistan, labels the country as a growth without development because of its poor performance in human development. Different sort of inequalities have worked to accentuate each other in the country (Chani et al., 2014) which has affected the welfare of its people negatively. The situation is further aggravated because of the existence of horizontal inequalities in the society. Lack of equal access to the opportunities of education, health, employment and basic necessities of life has made the lives of excluded and marginalized sections of the society more vulnerable (Pervaiz and Akram, 2018; Pervaiz et al., 2021). This has badly affected the social welfare of people belonging to lower social strata, living in remote rural areas and those belonging to the less developed regions of the country. Pervaiz et al. (2021) argue that even after controlling for their income, different characteristics of households such as their region of residence, their ethno-linguistic identity and profession are important to explain their outcomes of education and health.

METHODOLOGY

Welfare is a subjective concept. That's why, it is difficult to measure it directly. It is perceived in different ways by different researchers. In the previous sections, we have done a detailed discussion on the ways it is perceived, defined and measured. Some of the measures are subjective in their nature whereas some of those use some objective criterion to

measure welfare. Most of these measures rely upon multidimensional indices to capture the phenomenon of human well-being and social welfare. Moreover, the distributional aspect of income and resources is also considered important in this regard.

For the sake of our study, we define and measure welfare in terms of distribution of income among different sections of the society. We do so because it is an objective criterion and hence can have better policy implications. For comparing the benefits of economic growth acquired by different income groups, we have used the income shares received by different groups. These groups are divided into five different quintiles where each quintile consists of 20% of the total population. First quintile consists of the 20% population with lowest income whereas fifth quintile consists of the 20% population with the highest income. The income shares received by different quintiles and the ratios of these shares have been used for analysis. In addition to this, we have also used Ahluwalia- Chenery Welfare Index ([Ahluwalia and Chenery, 1974](#)) for our analysis. The index is constructed by taking into account the growth of income and its distribution across different groups. The following formula is used for the construction of the index.

$$ACWI = \sum G_i W_i$$

$i = 1, 2, 3, 4 \text{ and } 5 \dots\dots\dots (1)$

Where ACWI is the Ahluwalia-Chenery Welfare Index, G_i is the growth rate of income and W_i is the weightage assigned to the i th quintile. We have constructed three different variants of ACWI. The first variant, which we term as Ahluwalia-Chenery Equal Weighed Index (ACEWI) has been constructed by assigning equal weightage to each quintile. As there are five quintiles, so a weightage of 20% has been given to each quintile.

The next are two different **versions of** Ahluwalia-Chenery Poverty Weighed Index (ACPWI) which we term as Ahluwalia-Chenery Poverty Weighted Index-I (ACPWI-I) and Ahluwalia-Chenery Poverty Weighted Index-II (ACPWI-II). In the construction of ACPW-I, 60% weightage has been assigned to the first and 40% weightage has been allocated to second quintile. The other three quintiles carry a zero weightage. While constructing ACPWI-II, 100% weightage has been assigned to first quintile and the remaining four quintiles carry a zero weightage.

In the construction of ACPWI, the scheme of the allocation of weightage is based upon the idea that instead of overall growth of income in the economy, the focus should be on the growth of incomes of poor segments of the society. In APWI-I, where a weightage of 60% is assigned to first and a weightage of 40% is assigned to the second quintile, we are actually concerned to see that how the benefits of economic growth have reached to the bottom 40% population of the society. In APWI-II, where a weightage of 100% is assigned to the first quintile, our interest is to see that what have been the benefits of economic growth for the poorest 20% segment of the.

In addition to the above mentioned three variants of ACWI, we have also constructed an Income Weighted Index (IWI) where weightages have been assigned to each quintile as their percentage income shares. The three variants of ACWI have been compared with IWI. The values of ACWI would be higher than IWI if growth is pro-poor and poor segments of the society are reaping the benefits of economic growth. On the other hand if the values of ACWI are lower than IWI then the benefits of economic growth are not trickling down and such benefits are mostly concentrated in the hands of non-poor (top 60%) segments of the population.

Source of the Data

The study has used the data from different waves of Household Integrated Economic Survey (HIES), Pakistan Integrated Household Survey (PIHS), Pakistan Social and Living Standards Measurement (PSLM) Survey conducted during the period of 1990-2017. These survey are carried out and disseminated by Government of Pakistan. So, we had data only for the years when any of the above mentioned surveys was conducted. Then we constructed the above mentioned indices for the years for which the data was available. In order to generate a time series from 1990 to 2017, missing observation have been interpolated through simple linear interpolation method.

RESULTS/FINDINGS/ANALYSIS

This section contains the results and facts and figures obtained through the empirical exercise done in this article. These results have been presented with the help of graphs and the table containing the values of different indices which we have constructed for our analysis.

Average Households Income by Quintiles: 1990-1999 versus 2000-2008

Figure 1: Average Households Income by Quintiles: 1990-1999 versus 2000-2008

Source: Various Issues of HIES, PIHS and PSLM

Figure 1 provides us a glimpse of income gaps existing among different quintiles. It is evident from the figure that these gaps do not seem to be narrowed down over the period of time.

Quintile Wise Growth Rate of Income in Different Decades

Figure 2 shows the growth of household's income in different quintiles for the period of 1990-2017. The whole period is divided into three phases.

Figure 2: Quintile Wise Growth Rate of Income in Different Decades

Source: Authors' Calculations Based Upon the Data of Various Issues of HIES, PIHS and PSLM

During the first phase (1990-1999), highest income growth can be observed for the first quintile which was 34.74 percent followed by the income growth in second quintile which was 31.86 percent. During the second phase (2000-2008), income growth of middle quintile was at the highest among all five quintiles. The highest income growth in middle class during 200-2008 can be attributed to technological progress in telecommunication and production sector in the country during this era (Looney, 2008; Tanoli, 2016). In the third phase (2009-2017), the income growth across quintiles is not significantly different.

The ratio between First Quintile and Fifth Quintile

The ratio of the income of first quintile to fifth quintile has been presented in figure 3. This gives us an idea about the distribution of income in the society. The value of the ratio lies between 0 and 1. If the value of the ratio is closer to zero, it indicates more unequal distribution whereas its value closer to 1 it is an indication of relatively an equal distribution of income.

Figure 3: Ratio between First and Fifth Quintile

Source: Authors' Calculations Based Upon the Data of Various Issues of HIES, PIHS and PSLM

Figure 3 shows that during early four years (1990-1994), the value of the ratio is relatively lower. It indicates that in these years (1990-1994), the gap between rich and poor households in terms of their incomes is relatively higher. The value of the ratio goes on to increase after 1994 till the year 2003, after which it starts to decrease.

Ahluwalia and Chenery Welfare Index (ACWI) Calculations

Table 1 provides the comparison of our calculations of ACEWI, ACPWI-I and ACPWI-II with IWI.

Table 1: Comparing ACEWI, ACPWI-I, ACPWI-II with IWI

Year	IWI	ACEWI	ACPWI-I	ACPWI-II	
1990	19.36	19.45	18.52	18.37	Phase-I
1991	16.22	16.26	15.63	15.52	
1992	13.95	13.98	13.51	13.43	
1993	13.15	14.84	20.08	22.12	Phase-II
1994	11.13	11.17	11.37	11.37	
1995	45.62	51.02	66.51	72.59	
1996	31.11	33.29	39.82	42.07	Phase-III
1997	23.67	24.84	28.45	29.60	
1998	19.12	19.84	22.14	22.84	
1999	16.05	16.53	18.12	18.59	
2000	9.95	8.62	15.34	15.67	
2001	12.39	12.69	13.29	13.55	
2002	10.83	11.03	11.73	11.93	
2003	9.76	9.93	10.50	10.66	
2004	11.24	10.50	9.15	8.90	
2005	10.10	9.48	8.41	8.21	
2006	9.17	8.63	7.74	7.57	Phase-IV
2007	27.35	26.57	22.44	20.80	
2008	8.37	8.19	8.46	8.08	
2009	7.72	7.56	7.80	7.47	
2010	17.10	16.71	15.02	15.25	
2011	14.60	14.30	13.05	13.23	
2012	12.75	12.50	11.55	11.68	
2013	17.25	17.45	17.24	16.87	
2014	10.56	10.76	11.69	12.30	
2015	9.55	9.71	10.46	10.96	
2016	7.75	8.06	9.03	9.52	
2017	7.19	7.45	8.28	8.69	

Source: Author's Calculation

On the basis of our calculations, we have divided the whole time period of our study into four different phases. In first phase (1990-1992), the values of IWI are lesser than ACEWI but higher than ACPWI-I and ACPWI-II. It implies that during this phase the benefits of growth seem to be distributed among all income groups. Although, poor people (bottom 40% of the population) did not have any disproportionate benefits of the economic growth during this phase. During the second phase (1993-2003), the calculated values of IWI are lesser than the values ACEWI, ACPWI-I and ACPWI-II. It implies that during this phase economic growth was pro-poor in its nature. The benefits of growth seem to be trickled down during this period. The same phenomenon is observable through fig 3 where the ratio of the income of the first to

fifth quintile has an increasing trend during this phase. In third phase (2004-2012), the values of IWI are higher than the values of ACEWI, ACPWI-I and ACPWI-II. It indicates that during this phase the distribution of economic growth was not in the favour of the poor. This phenomenon is also evident from figure 3 which shows that the ratio of the income of first quintile to the income of fifth quintile has a decreasing trend during this period of time. A comparison of the values of IWI, ACEWI, ACPWI-I and ACPWI-II during the fourth phase (2013-2017) shows that economic growth remained helpful to improve the welfare of poor segments of the society.

CONCLUSION

GDP or GDP per capita have been most widely used measures for the country's economic progress. GDP approach is useful for measuring the overall performance of a nation's economy but it cannot be considered as a suitable measure of welfare of the people. It is particularly true when the distribution of income is highly skewed. Thus the distribution aspect also needs to be considered while analysing the welfare of people. In order to bring improvements in the lives of poor segments of the society, economic growth should be pro-poor and inclusive in its nature. Public policy needs to be designed in a way which ensures that benefits of economic growth are trickled down. More spending on education and health and creation of employment opportunities for poor segments of the population through the provision of credit facilities can be beneficial to enhance social welfare.

LIMITATION AND STUDY FORWARD

While defining and measuring welfare, this study has focused on the distribution of income particularly among poor sections of the society. Although distribution of income is an important and crucial factor in defining the welfare yet many other factors such as access to the opportunities of education, health and basic necessities of life can also be important in this regard. Future research can be conducted by considering these important factors in defining and measuring welfare.

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AUTHORS CONTRIBUTION

Jawad Rahim Afridi and Zahid Pervaiz substantially contributed by developing the conceptual framework and design of the study. Jawad Rahim Afridi and Muhammad Farhan Asif substantially contributed through acquisition and analysis of the data. Jawad Rahim Afridi, Zahid Pervaiz and Muhammad Farhan Asif were involved in drafting and critically revising the article.

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