Growth, Development and Social Welfare: An Empirical Study of Pakistan

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Abstract

Macroeconomic stability, poverty reduction and social welfare are necessary preconditions for reliability of macroeconomic policies. When social welfare is assessed, there is not only quantity but also quality of life aspect deliberating on effectiveness of implied macroeconomic policies. The present study therefore tries to understand this deficiency by considering how it affects quantity and quality aspects of social welfare. Generalized Method of Moments (GMM) provides reliable estimates especially when endogeniety is expected in the model, therefore, the results so obtained finds growth rate of aggregate output having a stronger positive and significant impact on social welfare than income distribution in Pakistan. Among quality channels, public expenditure on education and health has significant impact on aggregate output growth. Simultaneously, the study finds high inflation, persistent unemployment and growing public debt to have regressive impact on growth of social development in Pakistan.

Keywords: Macroeconomic policies, government expenditure, welfare programs, income distribution

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Introduction

Income of an individual alone cannot comprehend all the dimensions of poverty and associated social welfare. Although the literature of social welfare and its assessment disproportionally treats income but at the same time consideration of non-income and qualitative life aspects of welfare in a comprehensive manner are also important to have a better overall idea about it. Millennium Development Goals (MDGs) have increased awareness on social welfare as an integrated process calling for redefining aggregate societal welfare goals and creating enabling macroeconomic policies to achieve them. Although poverty analysis has often been considered in microeconomic context but the macroeconomic aspects like distribution and re-distribution are equally important. Developed and developing countries are trying different policy mix to implement stabilization programs with distributional goals, but the outcomes have been different subject to varying degree of emphasis on policy variables and nature of initial policy shock. It is observed that macroeconomic policies aiming to achieve distributional effects when combined with other welfare oriented initiatives generated quite unanticipated results. Macroeconomic policies that target to improve distributional aspects in society

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are difficult to execute and sustain due to lose grip on inflation and twin deficit (Demery & Addison, 1987). Although the literature emphasizes considering quality and quantity channels for assessing level of social welfare, but it is not easy to formulate policies in this perspective especially in developing countries like Pakistan where incidence of income disparities, widespread poverty and institutional ineffectiveness is persistently high. The study is an effort to understand the growth performance of Pakistan with reference to status of social welfare and income distribution, and try to suggest some policy directions for a viable policy mix.

Literature Review

Research contributions in recent years related to welfare, income distribution and economic wellbeing do not establish a systematic pattern of association between economic growth, social welfare and income distribution on one hand and between speed of growth of economy and income inequality on the other. But there are certain studies that found inequality to have regressive impact on economic growth rate (Dercon, 1999; Kanbur & Squire, 1999). Similarly, some studies found that initial income inequality does not explain lower rate of economic growth instead unequally distributed assets (e.g. land) significantly affects it in developing countries (Lundberg & Squire, 1999).

It is also found that the governments in developing countries could not manage the current account deficit with the growth of the economy over time as domestic demand and exports receipts could not be matched. At the same time inflation has always been a challenging phenomenon to impair the capacity of the low income groups to maintain even the existing subsistence life style (Dercon, 1999). Inflation acts as a regressive tax for the existing level of real income of all the segments of the society especially the poor, but among the poor the urban poverty is more damaging as the wages there are not indexed and meager assets cannot account for this loss in real income. Another contrasting phenomenon in developing countries is smaller proportion of population in upper income group holding bulk of the national assets which shields them from the incidence of inflation.

The net effect of welfare policies at macro level depends largely on traded and non-traded goods corresponding to consumption basket of different income levels. The welfare effect is subject to degree of price stability, flexibility of wages and distributional effects over time (Demery & Addison, 1987). But in practice the theoretical assumptions may not hold according to policy expectations and departure from presumed targets are main source of distributional inefficiencies. This also affects demand and supply of labor in formal and informal sectors and thus the factors mobility. Welfare distortions affect the demand patterns and the speed of supply response and adjustments in production occurs with lag that affects overall economic growth. Inflation, deficit and currency devaluation are closely linked but devaluation does not adversely affect purchasing power of the poor due to absence of imported goods in their consumption basket. But redistribution measures built in the fiscal system are themselves regressive due to taxing relatively smaller number of tax payers to aide huge poor population (Anand & Segal, 2008). Therefore, the exact measurement of welfare distortions and supply adjustments are purely an empirical context linking welfare and economic growth.

To create a balance between targets of economic development and growth, a disciplined macroeconomic policy stance is required that necessitates skillful designing and execution. The policy design is not merely aligning welfare goals with macroeconomic goals instead it requires special focus on execution and continuous feedback of region-wise cultural and socio-economic diversity to make adjustments due to unanticipated shocks (Foster, Lokshin & Sajaia, 2013). The nature of some shocks has been well studied and understood for different economies but there are certain distinguishing features of every society if not properly addressed may become source of deviations from policy targets due to differing dynamics of poverty, livelihoods and social insurance (Martin, 2016). In addition, the politically motivated higher public expenditures not just raise the domestic demand but also put pressure to scale up the taxes that leads to macroeconomic imbalances ultimately having effect on distributional policy outcomes for short as well as long run. The political business cycle also comes into effect especially in election and the following year due to which the vested interests of politicians dominate the timing of implementation. This is the reason that most of the thinkers support rule over discretion for managing public funds and expenditures. In addition to domestic factor, the external shocks also work through trade and exchange rate channels that have important implications especially for supporting health initiatives for preventive diseases in children and women (Burki, 2011).

Therefore, along with policies to accelerate growth rate of economy, the right set of institutional arrangements is also a necessary condition to bring about overall societal improvement by reducing poverty and income disparities, and at the same time improving overall standards of living. The uneven asset distribution leads to poverty due to credit rationing, civil unrest, low level of political voice and social conflicts. Therefore, the policy mix for reducing poverty is multifaceted with outward look to have export-led growth and inward look to have strategies to increase returns of factors of production. Skills development, rural infrastructure development, efficient institutions with social security in the form of financial support for failure new initiatives, health insurance, education and food provision are all the aspects needing attention of policy makers for overall welfare policies. There is ample literature highlighting the fact that the countries that achieved high economic growth rates were also able to reduce incidence of poverty with the help of appropriate mix of correct policies and efficient institutions.

Pakistan is no exception and it generates about 65% revenues through indirect taxes and has a very small fraction of population in the direct tax net (Economic Survey of Pakistan, 2016). Over the past few decades the poverty in Pakistan has changed its features but still number of rural poor is far greater than the urban poor. Therefore, the agriculture sector host most of the poverty in Pakistan but macroeconomic policies have prevented its growth due to price controls, exports taxes, inefficient rural markets, non-existent information system of rural production, primitive agriculture practices, cultural impediments and lower rewards for labor and specialization. Most of the rural labor is casual seasonally hired vulnerable to ups and downs in the agriculture sector. The data generated about labor skills and rewards in developing countries is generally gathered during the peak season due to vested interests of the bureaucracy to collect their share of 'booty'. This data distortion is reflected in underestimating the poverty and overestimating the economic activity in the rural areas while at the same time, the fear of being taxed makes the non-poor families to under-report their actual incomes (Janjua & Kamal, 2011). This generally leads to misallocation of resources which is not only in the form of transfers but also in the provision of essential services like health and education. Despite the claims of the governments to provide these facilities free of cost, there are certain costs that household face in the form of stationary and medical supplies etc. (Cheema & Sial, 2010). In Pakistan, the remittances have become an important source of income for domestic household. Welfare impact of remittances is assessed in some studies for their role in balance of payments, initiating new investments, addition in domestic savings, and labor skills development for economic growth.

With this background, this study is an attempt to introduce multidimensional measures of welfare in assessing economic growth along with considering incidence of growth in income distribution in different segments of the society. Keeping macroeconomic stability in perspective, the study is set to assess existence of positive growth impact in incomes and livelihoods of the poor by linking non-income welfare indicators to income distribution from 1973 to 2015.

Rest of the paper is organized as follows: the following section details the linkage between concepts of social welfare and economic development; section III is about methodology employed; section IV presents the results, and; in the end some recommendations are cited.

Measurement of Welfare and Economic Development

Economic development – nature and assessment measures – is debated in length over the last few decades especially after the World War-II. The discussion is generally concerned with the essential need of growth of economy along with preservation and furtherance of human values.[3] The effort in this study is not about implication of economic growth rather the changes occurring in welfare and living standards of the general population that influence the capacity of the society to maintain a healthy pace of growth. Although welfare is a very broad concept but this study is concerned about per capita income, income distribution and poverty. With higher level of per capita income, citrus paribus, economic welfare is also high, but persistence of income inequality and poverty leads to low level of social welfare.[4]

Development has challenged the researchers to expound a viable measure to assess it. Poverty in entirety does not comprehend the overall concept of development. But measurement of poverty to bring forth its complete picture is also subject to debate over use of different indices and macroeconomic measures. The two main areas in this regard are the income-consumption / expenditure and quality of life approaches making poverty in itself a multidimensional concept. There is also support for assessing poverty instead of input indicators (e.g. income and calorie intake etc.) on the basis of outcome indicators like infant mortality, literacy, enrollment, political voice and participation etc. At the same time, some of the social indicators that are not based on income having distributional properties show varying results when used with income based indicators. These inconsistencies are also seen in studies based on qualitative and quantitative analyses (Narayan et al, 1999). But assessment of poverty in relation to different policies has been difficult as different countries have different set of institutional arrangements and policy mix (Kanbur & Squire, 1999). Despite use of different indicators, income and consumption based indicators are focus of all policies targeted to achieve general social welfare (Dercon, 2000). Therefore, the measures that can be translated in terms of monetary units are easy to record and reliably empirically tested, providing a reasonable starting point to examine welfare of a society. But at the same time institutional strength and efficiency is also needed for delivering policy objectives of distribution, sustainability and governance (The World Bank, 2003).

Therefore, the objective of this study to present a historical assessment of welfare oriented policies in Pakistan by using Sen Welfare Index (1974). The study incorporates the distributional aspects along with income based indicators that is generally overlooked in studies conducted in Pakistan. The effort in the study is to empirically determine

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[3] See Sen (1988) for a detailed account of implications of economic growth for developing countries.
[4] Other dimensions of welfare can be included, e.g. life expectance and literacy rate as in calculation of Human Development Index.

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whether it is economic growth or the income distribution that significantly affect welfare in Pakistan.

Data and Methodology

Use of Gini coefficient to assess income distribution has become a tradition in welfare based studies. But with the passage of time, use of other income and outcome based indicators have broadened the scope of welfare analysis in the perspective of economic growth and income distribution. The attempts to empirically isolate effects of economic and social factors on welfare have not generated significant results mainly due to fusion of both these aspects in almost all public policy initiatives. Therefore, the study has adopted the methodology that identifies these channels separately and comprehends welfare as a goal for policy initiatives.

The study starts from the following Sen Index of Welfare:

$$W_t = Y_t + \beta(1 - G_t)^t \ldots (1)$$

Where, W_t measures welfare, Y_t output, G_t the index of income distribution and β represents share of income distribution in social welfare. The log transformation of Equation (1) with time differentiating generates the growth form as:

$$\frac{W}{W} = \frac{Y}{Y} + \beta\frac{(1\dot{-}G)}{(1-G)} \ldots (2)$$

The above equation indicates that growth rate of welfare is described by the growth rate of aggregate output and growth rate of reduction in income inequality. To comprehend the impact of social indicator on both the components of the equation (2), the study adopted the linear relationship for the sake of simplicity. Equation (3) and (4) help to estimate the values of the both the components of the equation (2) which will be in turn used to evaluate equation 2.

$$\frac{W}{W} = a_{01} + b_i * S_i + c_j * E_j + U \ldots (3) \qquad \frac{G}{G} = a_0 + \beta_i * S_i + \gamma_j * E_j + V \ldots \quad (4)$$

In equations (3) and (4), S_i and E_j are social and economic indicators respectively, where a_0 is the exogenous component of economic growth, b_i and β_i measure the impact of social indicators (public expenditure on health and education sector, unemployment rate, persons per doctor, teachers in universities, university enrollment) whereas c_j and γ_j measure the impact of economic indicators (inflation rate, output gap and debt level) on economic growth. The analysis is performed for the years 1973 to 2014 for Pakistan taken from various issues of household income and expenditure survey of Pakistan. Generalized Method of Moments (GMM) provides a better method of estimation over other methods as it derives the values of coefficients from by considering the sample moments conditional upon the behavior of the population moments. The reliability of GMM estimators is also high when the variables are expected to have endogeniety (Arellano & Bond, 1991; Arellano & Bover, 1995, and; Blundell & Bond, 1997). The welfare indicators so used are expected to generate simultaneity bias due to correlation with output growth rate. The study tried to address this issue by taking the first difference and using the lagged values as instruments to control for the sector specific impact to be transmitted to other variables in the system.

Results and Discussion

The findings of the study reveal that there is a positive and significant impact of output growth and income distribution on social welfare in Pakistan. The response of social welfare to economic growth rate is not just positive but also proportional. Therefore, the results confirm to the theoretical expectation that income brings about the social welfare in a society. It is also evident from the results that welfare improvement in income distribution has strong and significant impact on social welfare in Pakistan.

Table 1: *Regression Analysis of Welfare (N=42)*

Variable	Parameter Estimate
Constant	26.536
	(16.911)*
Growth rate of output	1.001
	(16.478)*
1-Gini coefficient	.981
	(3.22)*
R^2	.84
F	65.327

Note: The values in parentheses are the respective t-values. *, **, and *** significant at 1%, 5%, and 10% levels of significance, respectively. Data is taken from 1973 to 2015.

Explanatory variables considered in the model explain most of the variation in social welfare as value of R^2 is reasonably high. Similarly, the results also support that aggregate income and income inequality explain most of the behavior of state of welfare in Pakistan.

Table 2 reports the effect of social sector indicators on welfare in Pakistan working through the quantity and quality channels. The quality channel comprehends social factors whereas the quantity channel records the effect of growth rate of aggregate output. High value of R^2 for both the channels indicates that welfare in Pakistan is explained by variables so considered in the analysis. There is a significant impact of public expenditure on health and education, measure to control unemployment, availability of health care qualified staff, teachers in universities and enrollment on overall welfare in Pakistan.

The results of economic indicators reflect the expectations based on the economic theory. Inflation and unemployment rates have regressive impact on economic growth, which in turn affects overall welfare. The higher the inflation and unemployment simultaneously in a society, it puts a drag on not only the purchasing power but also reduces household income resulting in fall in aggregate demand in the economy. Therefore, the caution in the use of public policy must be exercised as the debt affects economy positively in Pakistan but at the same time incidence of unemployment is also significantly present requiring some improvements or change in the policy mix. One surprising finding is the regressive impact of university enrollment and public expenditure on education on output growth. This may be an indication that the expenditure on education does not translate into productivity enhancement of available human capital and merely produce quantity instead of quality. Pakistan has the least entrepreneurial startups among the factor driven countries in the world (Global Enterprise Watch, 2014).

Table 2: *Effect of Quantity and Quality Channels on Output Growth (N=42)*

	(Quantity Channel) Output Growth Rate	(Quality Channel) Gini Coefficient
Constant	5.76	3.46
	(6.98)*	(4.56)*
Public expenditure on education	-32.6	-.001
	(-3.06)*	(-1.11)***
Public expenditure on health	60.3	.001
	(5.04)*	(1.81)***
Population per Doctor	78.4	0.01
	(2.86)**	(11.92)*
Students in Universities	-13.51	7.62
	(-1.76)***	(0.30)
Teachers in Universities	13.5	0.001
	(1.95)**	(1.66)***
Unemployment	-62.7	2.062
	(4.43)*	(4.17)*
Debt	5.43	-1.74
	(2.31)**	(-2.39)**
Output Gap	25.25	11.76
	(0.42)	(6.85)*
Inflation rate	-10.52	-0.33
	(1.77)***	(-2.55)**
R^2	0.88	0.87
F	22.456	87.876

Note: The values in parentheses are the respective t-values. *, **, and *** are significant at 1%, 5%, and 10% levels of significance. Data is taken from 1973 to 2015.

The results reveal that level of public debt, inflation and expenditures on education affect income distribution negatively in Pakistan. The heavy reliance on indirect taxes (approximately 60% of total tax revenue) falls heavy on the poor segment of the society where inflation adds to the grievances by taking away power to purchase. The public expenditure on education seems to produce low quality output that does not significantly add to the human capital of the society. The remaining variables have significant impact on income distribution and contribute to improve it respectively.

Conclusion

The quantity and quality channels that affect social welfare are the center of discussion for past few decades as income and related measures do not present the complete picture of quality of human life in any society. The study conducted the analysis by incorporating these channels to assess state of welfare in Pakistan. The general finding of the study is in line with theoretical expectation that increasing aggregate output brings about social welfare in society. In turn, output growth and income distribution in Pakistan are positively affected by public sector expenditures on health but negatively by education, inflation and unemployment. Education, especially the university, does not seem to contribute to human capital in Pakistan. Public debt in Pakistan may be positively affecting aggregate output, but it has worsening effect on income distribution. Therefore, policy makers in Pakistan are faced with challenging situation to create policy mix that can enhance GDP but at the expense of income distribution and inflationary pressures.
Therefore, in the light of the findings of the study the following is proposed:

- Inflation is a regressive tax and most population of Pakistan struggle to maintain the real income intact because of meager assets and non-existence of any system of indexed wages. Therefore, inflationary policies can lead to worsening income distribution and deepening the incidence of poverty if pursued over a longer period of time.
- Higher education does not seem to contribute in output growth, therefore, policy makers should also include entrepreneurial incubation and new venture creation. But on the other hand, health care expenditures have positive impact on output growth and better health policies will bear long lasting growth and poverty reduction dividends.
- Debt financing may improve aggregate output but it is causing poverty and income disparities. The reason is the reliance on indirect taxes for revenue generation that falls heavily on low and middle income segments of Pakistan. Therefore, institutional strength is essential for not only better planning for utilizing the debt but also to generate taxes and revenues that are not regressive to the social welfare.

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