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Full Length Research Paper

An Assessment of Pro-Poor Growth in Pakistan from 1993 to 2008

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The study estimates the three pro-poor growth indices, namely, Poverty Bias of Growth (PBG), Pro-poor Growth Index (PPGI) and Poverty Equivalent Growth Rate (PEGR) using eight household income and expenditure surveys between 1993 and 2008 conducted by Federal Bureau of Statistics, Government of Pakistan, to ascertain whether growth has been pro-poor or not. The results show that during some periods the growth was not pro-poor meaning that the poor got proportionally fewer benefits than the non poor. The reason was that the deteriorated inequality effect either offset to some extent or in extreme case dominated the favourable growth effects resulting in poverty enhancement. The situation in the latter case is regarded as immiserising growth by Bhagwati. But during some periods the growth was pro-poor meaning that the poor got proportionally more benefits than the non poor. The reason was that the improved inequality effect reinforced the favourable growth effect resulting in greater poverty reduction than that if inequality had remained constant. At a policy level in order to meet the objective of poverty reduction, instead of increasing the growth rate only, the poverty equivalent growth rate should be maximized(i.e., on the one front growth rate be accelerated and on the other front, income distribution concurrently be improved).

Key words: Poverty, inequality, growth, pro-poor growth, Pakistan.

INTRODUCTION

Reducing poverty has been the main objective of policy makers, yet it has attracted more attention since the Millennium Development Goals (MDGs) have been adopted. The poverty level is dependent on two things-income and income inequality. So the change in absolute poverty can be regarded as the result of two factors: first, an increase in population's income, keeping income distribution constant, leads to poverty reduction and vice versa; second, reduction in income inequality while holding growth in mean income fixed has the same impact. As a result, variations in poverty levels can be attributed to two phenomena –one effect is growth relative to changes in mean income, and the other is inequality arising from changes in equality levels.

But the relationship among poverty, income inequality and growth is not so simple. According to Kuznets Hypothesis (1955), inequality would rise in the beginning with growth, but will decrease in the later as the benefits of the growth trickle down to the poor income group. But Deininger and Squire (1996), Ravallion and Chen (1997) and Dollar and Kraay (2002) depict that the growth has no impact on inequality. On the opposite side, according to Kaldor (1956), Li and Zou (1998) and Forbes (2000) inequality leads to growth. But Alesina and Rodrick (1994) shows that inequality affects growth adversely.

Datt and Ravallion (1992) decomposed the variations in poverty into growth and redistribution effects between two survey periods. Another approach for the decomposition of variations in poverty into growth and redistribution effects was developed by Kakwani (1997). Both approaches give information about variations in poverty between the two periods.

The relationship between poverty and growth is complex one and is determined by the level and changes in inequality as well. The pro-poor growth is concerned with the interrelations among poverty, inequality and growth. Pro-poor growth has its roots in the pro-distribution arguments by Chenery and Ahluwalia in the 1970s. The pro-poor growth was also implicit in the term 'broad-based growth' used in the 1990 World Development Report. The concept of pro-poor was never

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defined at that time. Now a day, there is talk about 'pro-poor growth'. What exactly is it, and how can it be measured? Whether an ordinary economic growth is always pro-poor growth or not? There are different definitions of pro-poor growth. Pro-poor growth is a situation in which any change in income distribution accompanying economic growth benefits the poor, meaning that poverty decreases more than it would have if all incomes had grown at the same rate (Baulch and McCullock,2000; Kakwani and pernia,2000). In simple words, the poor's income increases more than that of the non-poor. According to another definition, growth process is regarded as pro-poor provided that the poor get benefits in absolute terms as reflected in an appropriate measure of poverty (Ravallion and Chen, 2003).

Saboor (2004) estimated the poverty equivalent growth rate for headcount ratio only for rural Pakistan only from 1990-91 to 2001-02. Zaman et al. (2010) estimated the poverty bias of growth for the same poverty measure and for the same area from 1964 to 2006. Headcount ratio measures the proportion of population whose income/expenditure is lying below the poverty line. It does not deal with how far the poor are from the poverty line. The poverty gap index deals with this problem. It measures the mean distance that the poor fall from the poverty line and expresses that as a percentage of the poverty line. It reflects the depth of poverty. The main drawback of this index is that it remains insensitive to changes in income distribution among the poor. The squared poverty gap deals with such like problem. It measures the mean of squares of distance of the poor from the poverty line and expresses that as a percentage of the poverty line. It reflects the severity of poverty. It satisfies both axioms of monotonicity Other things remaining the same, a decrease in income of the poor under the poverty line must raise the poverty measure and vice versa. and transferability Other things remaining the constant, when income is transferred from a person to other person, relatively better of, poverty measure must increase and vice versa. Thus, this measure is preferable to the other measures. As all the three measures have their own merits and demerits, the poverty analysis should not be limited to only one poverty index. There are rare studies regarding the measurement of pro-poor growth in Pakistan for all of the three measures. So the purpose of this paper is to identify whether the growth has been pro-poor or not for all of the three poverty measures during the period from 1993 to 2008 in Pakistan using the household income and expenditure surveys (HIES) data. The study estimates the three pro-poor growth indices, namely, poverty bias of growth (PBG), pro-poor growth index (PPGI) and poverty equivalent growth rate (PEGR) so that the robust/reliable estimates can be obtained.

The paper is organized as follows: After introduction, the section 2 discusses the data and methodology employed. The section 3 presents the results. The final section draws conclusions and offers policy implications.

Data and methodology

This study utilizes the Household Income and Expenditure Surveys (HIES) data for the years 1993, 1994, 1997, 1999, 2002, 2005, 2006 and 2008 collected by Federal Bureau of Statistics (FBS) Pakistan. Sample size determined by FBS is representative at national and provincial level with rural/urban break up. The detail of households covered during different years is reported in the table 1.

METHODOLOGY

The reduction of poverty is the major goal which can be achieved by economic growth and / or favorable redistribution of income. There is consensus that economic growth alone is not sufficient tool for the reduction in poverty, redistribution of income also plays prominent role. The relationship among growth, inequality and poverty is complex one.

The pro-poor growth talks about the interrelationship among growth, inequality and poverty. Pro-poor has been defined in different ways.

General definition

According to Ravallion and Chen (2003), the growth is pro-poor whenever poverty decreases. This definition does not concern with how much poverty decreases.

Strict definition

This definition considers both poverty reduction and reduction in inequality. The growth is pro-poor if there is reduction in poverty and growth benefits the poor more than the non poor (McCulloch Baulch, 2000, Kakwani and Pernia, 2000).

The strict definition can be further divided into absolute or relative definition.

Relative definition

concerns with economic growth from which the poor get proportionally more benefits than the non-poor. This implies that on the one side poverty reduces during the course of growth and on the other side inequality also decreases.

Absolute definition

focuses that the poor get absolute benefits more than the non-poor. According to this definition, absolute inequality will decrease during the growth course.

Table 1. Households covered over time in Pakistan

Year	Sample size (Number of Households)		
	Rural	Urban	Pakistan
1993	9006	5586	14592
1994	9036	5632	14668
1997	8814	5447	14261
1999	9148	5523	14671
2002	9169	5536	14705
2005	8897	5807	14704
2006	9203	6234	15437
2008	9233	6235	15468

Pro-poor growth is also defined into partial or full approach.

Partial approach

It classifies the growth to be anti-poor or pro-poor without considering a poverty measure and poverty line (Kakwani and Son, 2006). In partial approach, the curves are used to show whether the growth is pro-poor or not

Full approach

On the other side it judges the growth from the pro-poor growth index that is, this approach tells how much the growth is pro-poor or anti-poor.so this approach provides a true picture of growth process.

Pro-poor growth index must satisfy the monotonicity criterion. Monotonicity Criterion means that the magnitude of reduction of poverty should be a monotonically increasing function of the pro-poor growth rate (Kakwani and son, 2003). Because the reduction of poverty is dependent on economic growth and how the benefits of growth are distributed among the poor and non-poor, maximizing growth is a necessary but not a sufficient condition for the reduction of poverty. There is no monotonic relationship between the reduction of poverty and economic growth. A measure of pro-poor growth that meets the axiom of monotonicity gives a necessary and sufficient condition for poverty reduction.

Measurement of pro-poor growth

There are different measures of pro-poor growth. This study estimated the following three measures of pro-poor growth**:**

Poverty Bias of Growth (PBG)

This index was estimated by McCulloch and Baulch (2000) to know whether the growth was pro-poor or not in Andhra Pradesh and Uttar Pradesh. The poverty indices may be written as a function of the poverty line (z), the average consumption expenditure (μ) and the parameter of Lorenz curve (Ψ):

$$\mathrm{P} = \mathrm{P}(z, \mu, \psi)$$

Where
P is poverty index- headcount ratio, poverty gap and squared poverty gap.
This study estimates the pro-poor growth index for all of these poverty measures. These three poverty measures popularized by Foster, Greer and Thorbecke (1984) are estimated as follow:

$$\mathrm{P}_{\alpha} = \frac{1}{N}\sum_{i}^{q}\left[\left(\mathrm{Z} - y_i\right)/\mathrm{Z}\right]^{\alpha}$$

If $\alpha = 0$, $P\alpha$ = Headcount ratio, if $\alpha = 1$, $p\alpha$ = poverty gap, and if $\alpha = 2$, then
$p\alpha$ = squared poverty gap.

Poverty Bias of Growth was derived from the decomposition of poverty changes into effects of growth and inequality as developed by Kakwani (1997) and this is given as under:

$$\mathrm{P}(\mu_2,\psi_2) - \mathrm{P}(\mu_1,\psi_1) = \underbrace{\frac{1}{2}\left[\left[\mathrm{P}(\mu_2,\psi_1) - \mathrm{P}(\mu_1,\psi_1)\right] + \left[\mathrm{P}(\mu_2,\psi_2) - \mathrm{P}(\mu_1,\psi_2)\right]\right]}_{growth\,component} + \underbrace{\frac{1}{2}\left[\left[\mathrm{P}(\mu_1,\psi_2) - \mathrm{P}(\mu_1,\psi_1)\right] + \left[\mathrm{P}(\mu_2,\psi_2) - \mathrm{P}(\mu_2,\psi_1)\right]\right]}_{inequality\,component}$$

P shows the poverty index- headcount ratio, poverty gap or squared poverty gap. μ1 and μ2 are mean consumption expenditure in period 1 and period 2 respectively. Ψ1 and Ψ2 are inequality in expenditure in period 1 and period 2.
This can be written in the following way:

$$\Delta\mathrm{P} = \Delta\mathrm{P}_{\mu} + \Delta\mathrm{P}_{\psi}$$

Where $\Delta\mathrm{P}$ = Change in poverty indices between two

periods. ΔP_{μ} = component of growth: the mean change in the measure of poverty because of changes in mean consumption expenditure while keeping inequality unchanged. ΔP_{ψ} = component of inequality: the mean change in the measure of poverty because of changes in inequality while keeping mean consumption expenditure unchanged.

This technique decomposes the change in poverty into growth and redistribution components in the way that there is no residual as in the Ravallion (1992)'s technique. As this decomposition is made between two periods, it is necessary to adjust the mean expenditure by the suitable price index to take into account the inflation/deflation. This study uses composite price index which is the combination of consumer price index and tornqvist price index for the purpose.

The components of the growth and inequality of the change in poverty may either counteract or reinforce each other. The growth in mean consumption expenditure may decrease poverty ($-\Delta P_{\mu}$) while a decline in inequality may reinforce its impact ($-\Delta P_{\psi}$). On the other side, there is also possibility that inequality may rise following growth and counteracts the poverty reduction impact of increasing income. So the poverty change between two periods depends on the sign and absolute magnitude of the components of growth and inequality. Irrespective of whether poverty has increased or decreased overall, whenever inequality had increased following growth, the growth would have been biased against the poor.

McCulloch and Baulch developed a Poverty Bias of Growth (PBG) Index from the Decomposition technique of Kakwani (1997) to know whether the growth had been pro-poor or anti-poor between two periods that is given below:

$$\Delta P = P_{\mu} + P_{\psi}$$

$$P_{\psi} = \Delta P - P_{\mu}$$

$$multiplying\ by\ (-) we\ get$$

$$-P_{\psi} = P_{\mu} - \Delta P$$

$$Poverty\ Bias\ of\ Growth\ (PBG) = \text{Re}\,duction\ of\ poverty\ with\ Distributionally\ neutral\ growth - reducing\ poverty\ with\ actual\ growth$$

$$= -P_{\psi}$$

(McCulloch and Baulch, 2000)

The positive poverty bias of growth shows that the growth has pro-poor bias, but the negative poverty bias of growth shows that the growth has anti-poor bias.

Pro-poor Growth Index (PPGI)

This index was estimated by Kakwani and Pernia (2000) to know about the pro-poorness of growth in Lao People's Democratic Republic, Thailand and Korea. According to them the growth is pro-poor if the poor get proportionately more benefits from the growth than the non-poor.Pro-poor growth occurs when growth decreases both poverty and inequality concurrently. This study developed a pro-poor growth index that is given as under:

$$\phi = \frac{\eta}{\eta_{g}}$$

Where

$$\eta = \eta_{g} + \eta_{l}$$

η = total poverty elasticity of growth, η_g= growth elasticity of poverty keeping inequality fixed, η_l= Inequality elasticity of poverty keeping growth fixed. Where $\eta = \frac{\Delta P}{\gamma}$, $\eta_g = \frac{P_{\mu}}{\gamma}$ and $\eta_l = \frac{P_{\psi}}{\gamma}$. If there is recession in the economy it is defined as

$$\phi = \frac{\eta_{g}}{\eta}$$

If $\Phi > 1$, the growth is regarded as pro-poor, implying that the growth benefits the poor proportionately more than the non-poor, that is, inequality improves during the growth process. If $0 < \Phi < 1$, the growth is regarded as trickle down growth, that is, inequality deteriorates during the growth process even though the growth reduces poverty. If Φ is less than 0, the growth causes the poverty to increase. Such situation is regarded as 'Immiserising' growth by Bhagwati (1988).

If there is recession in the economy, then the actual growth rate is negative. There might be different possibilities of poverty. If inequality decreases to the extent that it offsets the adverse growth effects resulting in poverty reduction. Such situation is regarded as pro-poor. If inequality decreases, but adverse growth effect dominates it resulting in an increase in poverty. Such situation is called anti-poor.

Poverty Equivalent Growth Rate (PEGR)

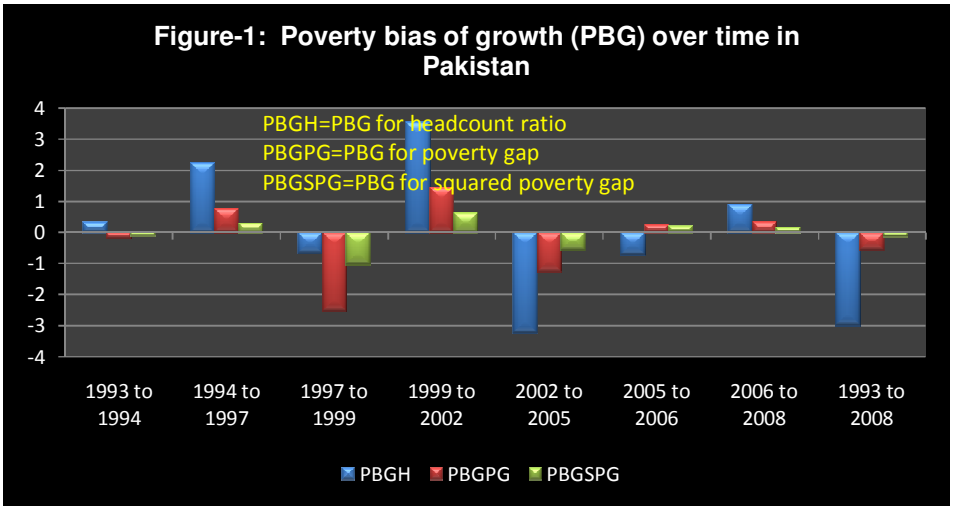
Pro-poor growth index consider the distribution of the benefits of growth between the non-poor and the poor, but it does not pay attention to the actual growth rate level. Kakwani and Son (2003) developed Poverty equivalent growth rate (PEGR) to consider the actual growth rate that is given as under:

The growth is called pro-poor when γ^* is greater than γ, but when γ^* is less than γ, the growth is regarded as anti-poor. If $0 < \gamma^* < \gamma$, inequality rises during the growth

Table1. Poverty Bias of Growth (PBG) from 1993 to 2008

Year		Poverty indices	Total change in poverty	Explained by		Poverty Bias Growth (PBG)
				Growth Component	Inequality Component	
1993	to	Hcr*	3.94	4.28	-0.34	0.34
1994		Pg**	1.24	1.035	0.205	-0.205
		Spg***	0.45	0.33	0.12	-0.12
1994	to	Hcr	-2.78	-0.535	-2.245	2.245
1997		Pg	-0.89	-0.12	-0.77	0.77
		Spg	-0.34	-0.045	-0.295	0.295
1997	to	Hcr	3.83	-2.9	6.73	-6.73
1999		Pg	2.54	-0.77	2.54	-2.54
		Spg	0.78	-0.26	1.04	-1.04
1999	to	Hcr	3.91	7.47	-3.56	3.56
2002		Pg	0.59	2.06	-1.47	1.47
		Spg	0.12	0.75	-0.63	0.63
2002	to	Hcr	-10.4	-13.645	3.245	-3.245
2005		Pg	-2.24	-3.505	1.265	-1.265
		Spg	-0.64	-1.225	0.585	-0.585
2005	to	Hcr	-0.86	-1.59	0.73	-0.73
2006		Pg	-0.63	-0.375	-0.255	0.255
		Spg	-0.34	-0.12	-0.22	0.22
2006	to	Hcr	-5.08	-4.18	-0.9	0.9
2008		Pg	-1.27	-0.92	-0.35	0.35
		Spg	-0.44	-0.28	-0.16	0.16
1993	to	Hcr	-7.44	-11.235	3.795	-3.795
2008		Pg	-1.43	-2.46	1.03	-1.03
		Spg	-0.41	-0.74	0.33	-0.33

* Headcount ratio **Poverty gap ***Squared poverty gap



process but poverty still decreases. Such situation may be regarded as trickle-down process when the poor gets benefits proportionally less from growth than the non-poor. There is also possibility when the poverty rises during the growth process. In such a situation γ* becomes negative. It can happen when inequality rises so much that the adverse increasing inequality impact outweighs the beneficial growth impact. Such a situation is regarded as 'Immiserising growth' by Bhagwati 1988). Poverty equivalent growth rate satisfies the monotonicity criterion that is not met by the other pro-poor growth indices.

During recession when the observed growth rate is negative ($\gamma < 0$), poverty more probably increases, but if inequality decreases so much that the poverty reduces in which case Poverty Equivalent Growth Rate is Positive ($\gamma^* > 0$), then the recession is regarded as strongly pro-poor. The recession is regarded as pro-poor if Poverty Equivalent Growth Rate is greater than actual growth

rate, but less than zero ($\gamma < \gamma^* < 0$) in which case poverty increases but the poor are hurt proportionally less than the non poor. The recession is called anti-poor if the Poverty Equivalent Growth Rate is less than the actual growth rate and the latter is less than zero($\gamma^* < \gamma < 0$), in which poverty increases and also the poor are hurt proportionally more than the non poor.

RESULTS AND DISCUSSIONS

Reduction of poverty has been the main objective of policy makers which can be made possible by economic growth and /or by the income redistribution. There is consensus that growth alone is not effective for the reduction in poverty because it is possible that the inequality may increase during the growth process and offset some of the benefits of growth or in extreme cases dominate the growth benefits and result in poverty enhancement.

The pro-poor growth is concerned with the interrelations among poverty, inequality and growth. The study estimates the three pro-poor growth indices, namely, poverty bias of growth (PBG), pro-poor growth index (PPGI) and poverty equivalent growth rate (PEGR). The results of the 1st pro-poor growth index (i.e., PBG) are presented in the table-1 and figure-1 given below.

The results of the table-1 show that there were positive signs of the growth components given in the column 4 during 1993 and 1994 as well as 1999 and 2002 which indicate that the economy experienced recessions. During the 1st period the decline in mean expenditure was the result of negative agriculture growth. Excessive rains and floods damaged severely the major crops. Leaf curl virus attacked cotton crops. All these factors contributed to the negative growth in major crops resulting in negative growth in agriculture sector. Other sectors of the economy also did not show a marvelous performance. Thus, as a whole recession was observed in the economy (Economic Survey of Pakistan, 1992-93). During the 2nd period of recession the main reason for negative growth in mean expenditure was that the drought affected the economy adversely (Economic survey of Pakistan, 2001-02). Whereas the positive sign of poverty bias of growth (PBG) for headcount ratio during the 1st period (see figure-1) depict that recession was pro-poor meaning that it would have increased more, if it had not been for pro-poor distributional shift. But the negative sign of PBG for poverty gap and squared poverty gap indicates that the recession was not pro-poor indicating that they would have increased less, if it had not been for anti-poor distributional shift. Whereas during the 2nd period the signs of PBG was positive for all of the poverty measures estimated by this study indicating that the recession was pro-poor for all of them.

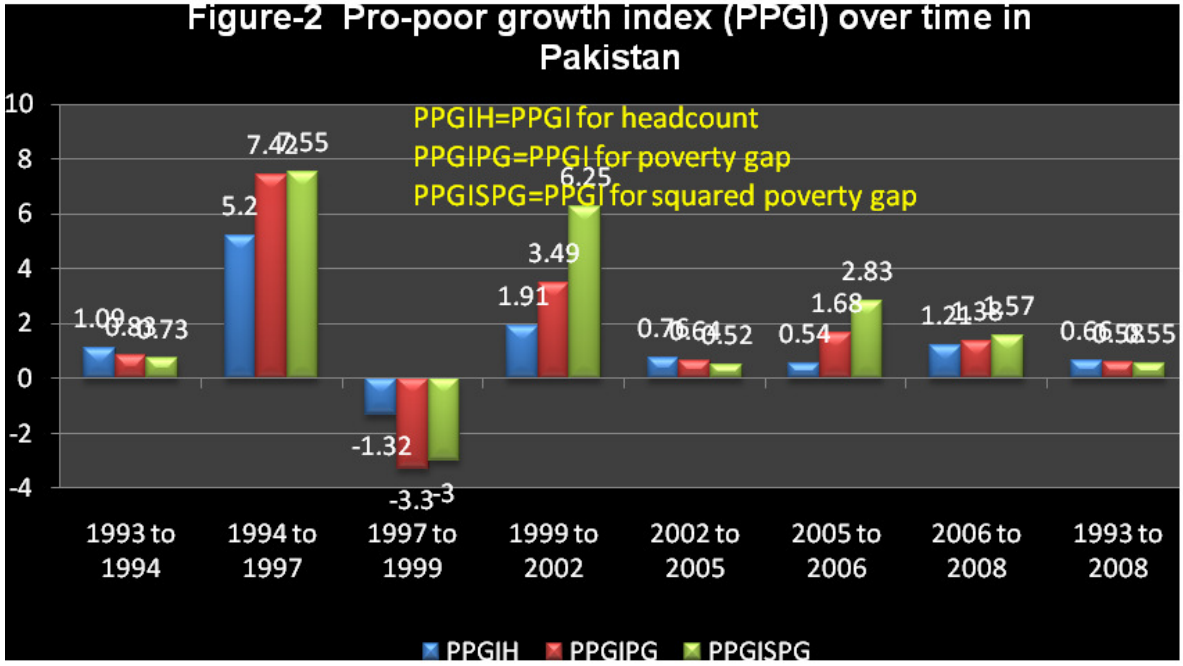
The negative signs of the growth components for the remaining periods show that there was growth (see table-1). Among these periods of growth, the table 1 depicts that there were two periods (1994 and 1997 and 2006 and 2008 in which the growth was pro-poor for all of the poverty measures meaning that the poor got proportionally more benefits from growth as compared to the non poor because the value of PBG was positive for these periods (i.e., inequality improved during the growth process). During the 1st period the increase in mean expenditure was brought about by positive growth rates in all of the sectors of the economy, especially agriculture sector in the previous year 1995-96. The agriculture sector grew by 6.7 percent. The major role was attributed to growth of 9.0 percent in major crops mainly due to record production of wheat and rice and recovery in cotton. The improved growth in agriculture sector was attributed to government agriculture reforms such as waiving of interest on loans, introduction of Kisan Banking Windows, support price policy and introduction of Awami Tractor Scheme (economic survey of Pakistan, 1995-96). Whereas improved growth rate of 4.8 % in manufacture sector was attributed to a number of factors such as 37.6 % increase in industrial investment, adequate credit provision, reduction in import tariffs and liberalization of imports of raw materials and capital goods. Whereas during the 2nd period the mean expenditure rose as a result of growth in all the three sectors, namely, agriculture, industry and service in the previous year 2006-07. However, the agriculture sector played a prominent role in this direction. This sector grew by 5.0 percent (good performance) as against the preceding year's growth of 1.6 percent. This growth was brought about by growth of 7.6 percent in major crops mainly due to higher production of wheat and sugar cane (Economic survey of Pakistan, 2006-07).

But between 1997 and 1999 as well as 2002 and 2005 the growth was not pro-poor for all of the poverty measures meaning that the poor got proportionally fewer benefits than the non poor because the PBG was negative (i.e., inequality deteriorated during the course of growth) (see figure-1). Between these periods rising mean expenditure was the result of the growth in manufacturing sector, though there was also growth in agriculture. During the 1st period though growth was observed, yet poverty increased. The reason was that inequality increased to the limit that it dominated the favourable growth effect resulting in poverty enhancement. This situation is regarded as 'Immiserising growth' by Bhagwati (1988). During the 2nd period although inequality increased, yet growth effect dominated it resulting in poverty reduction. Similar situation was observed during the period as a whole (i.e., 1993 and 2008). That is, growth was not pro-poor for all of the poverty measures. But during 2005 and 2006 the growth affected the poor as measured by headcount ratio and ultra poor as measured by poverty gap and squared poverty gap differently. In the case of former, it was not

Table 2. Pro-poor Growth Index (PPGI) from 1993 to 2008

Year	Poverty indices	Total elasticity of poverty	Explained by		Pro-poor Growth Index (PPGI)
			Growth elasticity of poverty	Inequality elasticity of poverty	
1993 to 1994	Hcr*	-0.88	-0.96	0.076	1.09
	Pg**	-0.28	-0.23	-0.04	0.83
	Spg***	-0.10	-0.07	-0.03	0.73
1994 to 1997	Hcr	-5.28	-1.02	-4.26	5.20
	Pg	-1.69	-0.23	-1.46	7.42
	Spg	-0.64	-0.08	-0.56	7.55
1997 to 1999	Hcr	1.13	-0.86	1.99	-1.32
	Pg	0.75	-0.23	0.75	-3.30
	Spg	0.23	-0.08	0.31	-3
1999 to 2002	Hcr	-0.51	-0.98	0.46	1.91
	Pg	-0.08	-0.27	0.19	3.49
	Spg	-0.02	-0.10	0.08	6.25
2002 to 2005	Hcr	-0.64	-0.83	0.20	0.76
	Pg	-0.14	-0.21	0.08	0.64
	Spg	-0.04	-0.07	0.03	0.52
2005 to 2006	Hcr	-0.43	-0.80	0.37	0.54
	Pg	-0.32	-0.19	-0.13	1.68
	Spg	-0.17	-0.06	-0.11	2.83
2006 to 2008	Hcr	-0.91	-0.75	-0.16	1.21
	Pg	-0.23	-0.16	-0.06	1.38
	Spg	-0.08	-0.05	-0.03	1.57
1993 to 2008	Hcr	-0.50	-0.76	0.26	0.66
	Pg	-0.10	-0.17	0.07	0.58
	Spg	-0.03	-0.05	0.02	0.55

* Headcount ratio **Poverty gap ***Squared poverty gap



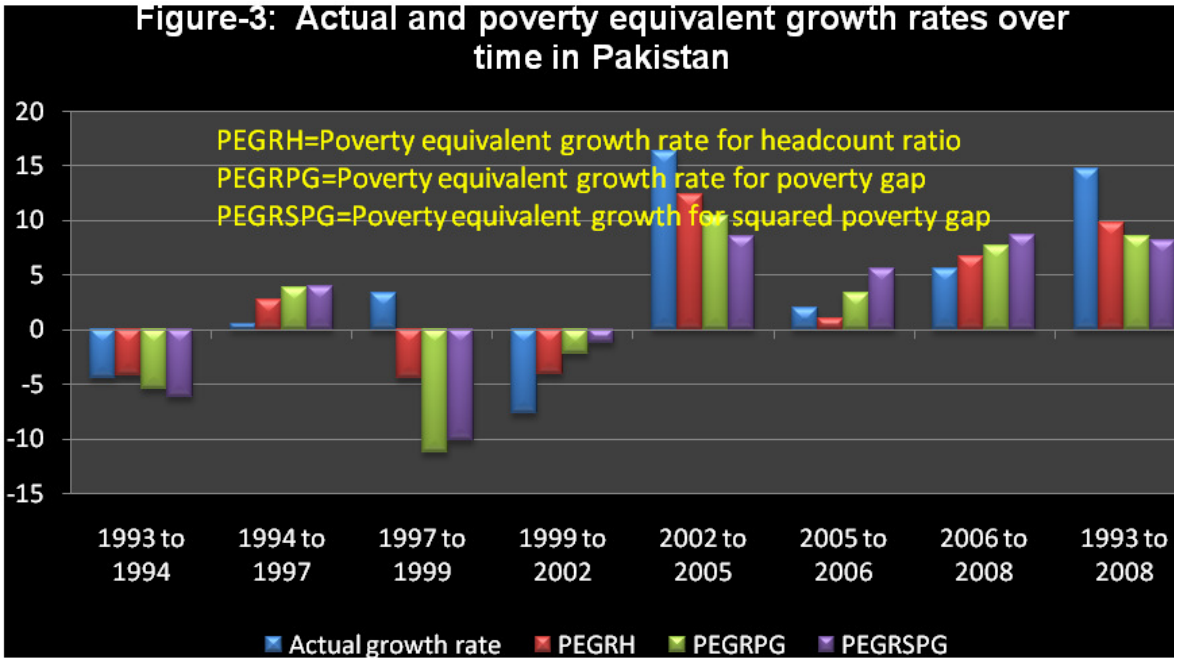
pro-poor, but in the latter case it was pro-poor. During this period manufacturing sector played a prominent role in increasing mean expenditure (economic survey of Pakistan, 2005-06).

The study estimates the pro-poor growth index too. The results are presented in the Table-2 and figure-2.

The table-2 and figure-2 show that the results of the pro-poor growth index support the previous ones. The

Table 3. Poverty equivalent growth rate from 1993 to 2008

Year	Actual growth rate	Poverty Equivalent Growth Rate (PEGR)		
		Headcount ratio	Poverty gap	Squared poverty gap
1993 to 1994	-4.47	-4.12	-5.36	-6.10
1994 to 1997	0.53	2.74	3.90	3.98
1997 to 1999	3.38	-4.47	-11.16	-10.15
1999 to 2002	-7.64	-4.00	-2.19	-1.22
2002 to 2005	16.34	12.45	10.44	8.53
2005 to 2006	1.99	1.08	3.34	5.63
2006 to 2008	5.56	6.75	7.67	8.73
1993 to 2008	14.73	9.75	8.56	8.16



values of pro-poor growth index are greater than 1 for the poverty measures during the periods for which the value of PBG was positive and less than 1 for which the estimates of PBG were negative indicating that in the former case the growth/recession was pro-poor, while in the latter case it was not pro-poor.

The study estimates the poverty equivalent growth rate also, the results of which are presented in the table-3 and figure-3

The results of the table-3 figure-3 also support the previous ones. The values of the poverty equivalent growth rates are greater than the actual growth rates for the poverty measures during the periods for which the value of pro-poor growth index was greater than 1 (i.e., the value of PBG was positive) and less than the actual growth rates for the poverty measures during the periods for which the value of PPGI was less than 1 (i.e., the value of PBG was negative) indicating that in the former case the growth/recession was pro-poor and it was anti-poor in the latter case. It is notable that if the actual growth rate is positive, but poverty equivalent growth rate is negative, the situation of such type is called 'Immiserising' growth. Such situation occurs during the periods, when during the growth process inequality increases to the extent that it dominates the favourable growth effects resulting in poverty enhancement. This situation is regarded as 'Immiserising' growth by Bhagwati (1988). Thus such situation was observed between 1997 and 1999 in Pakistan.

All of the pro-poor growth indices provide the same results. Thus, it is robust to conclude that the economy experienced recession during 1993 and 1994 as well as 1999 and 2002. During the first period it was pro-poor for the headcount ratio, but for the poverty gap and squared poverty gap it was anti-poor, whereas during the second period, it was pro-poor for all of the poverty measures. For the remaining periods growth was observed in the economy. The growth was not pro-poor during 2002 and 2005 as well as during the period as a whole (2002 and 2008), whereas it was pro-poor during 1994 and 1997 as well as 2006 and 2008. There was Immiserising growth between 1997 and 1999. Whereas during 2005 and 2006 the growth was not pro-poor for headcount ratio, but it was pro-poor for poverty gap and squared poverty

gap.

CONCLUSION AND POLICY IMPLICATIONS

The study estimates the three pro-poor growth indices, namely, Poverty Bias of Growth (PBG), Pro-poor Growth Index (PPGI) and Poverty Equivalent Growth Rate (PEGR) using eight household income and expenditure surveys data collected by Federal Bureau of Statistics, Government of Pakistan, to know how growth affected the poor during the period from 1993 to 2008. The results depict that the recession was observed during 1993 and 1994 as well as 1999 and 2002. Between the 1st period the growth was pro-poor for the headcount, but it was anti-poor for poverty gap and squared poverty gap. Whereas during the 2nd period it was pro-poor for all of the poverty indices estimated by this study. The reason was that though there was recession in the economy, inequality improved resulting in less increase in poverty than that if income distribution had remained constant.

There were two periods (1994 and 1997 and 2006 and 2008) during which the growth was pro-poor for all of the poverty measures. The cause was that both favourable growth and improved income distribution contributed towards the reduction in poverty. There was Immiserising growth between 1997 and 1999 in Pakistan. That is, Inequality worsened to the limit that it dominated the favourable growth effect causing poverty to increase. But during 2005 and 2006 the growth was anti-poor for the headcount ratio, but it was pro-poor for the poverty gap and squared poverty gap. Between 2002 and 2005 as well as 2002 and 2008, the growth was not pro-poor for all the poverty measures. The reason was that during the growth process inequality increased. Thus, some part of the growth effect was offset resulting in less reduction in poverty than that if it had remained fixed. Thus, it can be concluded that growth alone is insufficient factor towards the reduction in poverty. In order to get the objective of poverty reduction, instead of growth alone, poverty equivalent growth rate should be maximized (i.e., on the one side growth rate be accelerated and on the other side, income distribution concurrently be improved).

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