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Patterns of pro-poor Growth and its determinants: Empirical illustration from Individual countries

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Introduction

The growing research interest in the pro-poorness of growth have recently been measured from two definitional approaches; absolute and relative measurements. These measures mostly analysed in cross-sectional countries (including the widely quoted works of Dollar and Kraay (2002); Kraay (2004) and Kakwani and Son, 2006) do not give us a clear picture of individual countries experiences. Although intuitively appealing, these measures have two operational limitations; firstly, their results sometime conflict even from the same set of data and secondly, the degrees of pro-poorness among the poor households are not clearly captured. We demonstrate these limitations using the GICs curves and proposed another measure based on Shapley poverty decomposition that captures the degrees of benefit/loss of the pattern of growth accruing to those households at the bottom of the income distribution. We apply the method to six selected countries.

Methodology

The generalised rate of pro-poor growth indicator within the evaluation of social welfare analogous to that of absolute and relative GICs is express as:

$$\Gamma(p) = \gamma + \frac{1}{n}\sum_{i=1}^{n} \eta_i(v)\,\Delta \ln L'(p_i)$$

Where γ is the growth rate of mean income and $\Delta \ln L'(p)$ is the adjustment factor. Note that, $\Gamma(p) > \gamma$ only if the slope of the Lorenz curve is increasing overtime. η_i is the weight function attached to the income of individual i; and satisfied the conditions $(\eta_{i-1}\eta_n) \geq 0$ (see Mayshar andYitzhaki,1995), V is the aversion parameter of the extended Gini coefficient; when V equal to 2, the measure utilised the Gini coefficient.

Using the first derivative of the General Quadratic (GQ) Lorenz model (Datts, 1998) and the standard definitions of the GICs, we estimate the absolute and relative pro-poor measures for any given two periods as:

Absolute GIC = $(\log Y_2 - \log Y_1) + (\log L'_2(p) - \log L'_1(p))$

Relative GIC= $\log L'_2(p) - \log L'_1(p)$;

In figures 1 & 2, we show the conflicting results for México (1992-2004).The data used are obtained from the World Bank global monitoring database. In Figures 1, the Absolute GIC curve shows that growth is pro-rich, while the relative shows growth to be pro-poor for the 0.9 percentile of the population. Figure 2 shows the reverse of the first result. Absolute measure is pro-poor and the relative pro-rich for the period 1996-2000.

The degrees of Pro-poor Measures

The general framework of the change in Shapley poverty decomposition is given as:

$$\Delta P = \left(\frac{\mu_{t+1}}{\mu_t} - 1\right) + (L_{t+1} - L_t)$$

Our approach is that growth can be declared pro-poor if ς_g is negative and pro-rich if ς_l is positive. Thus, pro-poor growth can also be measure as:

$H = \varsigma / \varsigma_g$

Where

H is pro-poor if $H > 1$ and $\varsigma_l < 0$

Weakly pro-poor when $0 < H < 1$ and $\varsigma_l > 0$ - increasing inequality, but poverty is declining due to growth

And

Pro-rich- $H < 0$

Where positive growth (g12) between two (1&2) period is define as

Where $\zeta = P_{12} / g_{12}$

The positive change in growth and zero change in inequality is

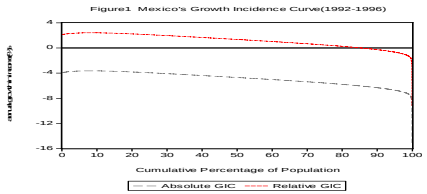
$\zeta_g = G_{12} / g_{12}$

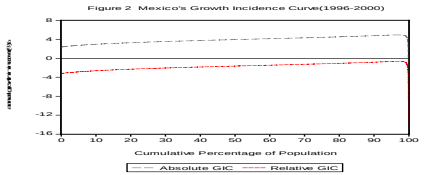
and the proportional change in change in poverty when inequality changes and no change in income;

$\zeta_l = L_{12} / g_{12}$

Thus we can write proportional change in poverty as a result of one percent positive change in growth as the combinational of equation 1 &2

$\varsigma = \varsigma_g + \varsigma_l$





Empirical Illustration -Pro-poor indicator in selected countries

Mexico

The result in table 1 shows that recession period (1992-96) is pro-poor. The headcount pro-poor index is 1.68, poverty gap (1.64) and poverty severity (1.65). For this period, redistribution helps increase the share income of the poor. The economy achieving a remarkable growth rate of about 6% for the period 1996-2000, but the poor hardly gain from the gain of growth. The pro-poor indicators are weakly pro-poor. The headcount pro-poor is 0.48, but if we look further to normalised poverty deficit (0.45) and poverty severity (0.43), it is clear that the benefits of growth flow less to those far below the poverty line. This cast doubts on the study of Dollar and Kraay (2002) that a positive growth benefits the poor to the same extent that it benefits the whole economy.

Costa Rica

For Costa Rica, the change in inequality by -6.25% for the period 1981-86 help improved the incomes share of the poor. The pro-poor indicator for headcount is 1.09 and this increase to 1.11 for poverty severity. From this scenario, we can argue that if change in inequality that favours the poor is deep enough, poverty will reduce no matter how low positive growth rate is. For the period 1986-90, high positive growth rate along with low equality level seems to benefit the poor- poor in Costa Rica. For this period, growth rate increase by 10.43% along with increase in inequality of 7.30%. The headcount pro-poor indicator is weakly pro-poor at 0.48, but become significant for both the poverty gap (1.0) and poverty severity (1.4). For the period 1997-98, the economy recorded a high growth rate of 15.37%, but inequality increase from 45.8% in 1997 to 48.0% in 1998, reducing the benefit of growth to the poor.

Brazil

The case for Brazil in table 1 shows that high inequality beyond certain threshold is bad for the poor. For example the Brazilian economy experiences a positive high growth rate for the following periods: 1985-87 and 1987-89, yet the pattern of growth does not benefit the poor. In 1987-89, the growth rate achieve was 16.40%. also see the period 1987-89 in table 1

Colombia

The period 1988-89 seems to justify Dollar and Kraay (2002) that growth is all that matter for poverty alleviation. Growth rate increased by 6.99% from 322.41 in 1988 to 344.96 in 1989 decreasing poverty by 45.4%. The pro-poor headcount is 1.01 and 1.04 for poverty severity despite rise in inequality by 1.13%; rising from 53.0% to 53.6%. Unfortunately, this argument is not sustained for the period 2000-03, where growth rate rise by 5.87% and inequality level increased by 0.75 %. The value rises from 57.4% in 2000 to 58.7% in 2003. The degree of pro-poor indicators show: headcount (0.39), poverty gap (0.33) and poverty severity (0.30).

Urban China

For the whole period (1993-2002) growth is weakly pro-poor despite increase and sustained growth over this period. The benefits of growth do not accrue to the poor in Urban China. The continue increase in the level of inequality tend to dent the prospect of the poor households benefiting from the growth.

Egypt

For the period 1990-95, although inequality increase from the 31.9% to 32.9%, the lower part of the distribution experience decrease in inequality, but this was not deep enough to make the growth pro-poor.. The pro-poor indicator for the headcount is -0.05 and 0.1 for poverty severity. For the period 1995-2000, the poor failed to benefit despite marginal improvement in growth.

Table 1 Decomposition and Pro-Poor indicators for selected countries

		Pro-poor growth indicators		
COUNTRY	periods			
		Headcount	Poverty gap	Poverty severity
Mexico	1992-1996	1.68	1.64	1.65
Mexico	1996-2000	0.48	0.45	0.43
C. Rica	1981-1986	1.09	1.09	1.11
C. Rica	1986-90	0.48	1.00	1.40
C. Rica	2000-01	0.48	0.541	0.6
Brazil	1985-87	0.87	0.66	0.56
Brazil	1987-89	0.48	0.57	0.61
Columbia	1988-89	1.01	1.02	1.037
Columbia	2000-03	0.39	0.33	0.30
U. China	1993-2002	0.55	0.51	0.43
U. China	1999-2002	0.85	0.84	0.84
Egypt	1990-95	-0.05	-0.7	0.1
Egypt	1995-00	0.79	0.79	0.79

DETERMINANTS OF PRO-POOR GROWTH

In this section we consider if the range of policies that are associated with higher growth also benefit the poor proportionately in a given country. We focus on the following right-hand side variables: openness to international trade, government consumption as share of GDP, share of agriculture in GDP, inflation, financial development, and external debt. We also considered other variables less correlate with growth, but are important milestone in alleviating poverty: agricultural relative to labour productivity and literacy. Our results show that income of the poor does appear to respond systematically only to policy that enhances literacy rate and educational advancement.

Conclusion

The empirical results show that both growth and distribution matter in alleviating poverty and their impact differ among the poor, periods and between countries.