

**Poverty, Economic Growth, and Inequality in Developing Countries:
A Focus on Nepal and South Asia**

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Our study seeks to answer what rate of economic growth will achieve a one percentage-point reduction in the level of poverty, as measured by the popular headcount ratio. We also recognize that income distribution might change in response to growth and may in turn have an effect of its own on poverty. In particular, do initial inequality and level of development matter in the subsequent realization of poverty? Finally, we examine if some seemingly important variables, such as trade and human capital, also have a significant influence on poverty. For obvious reasons, these findings can have significant implications for policy.

We focus our study on Nepal and South Asia. The incidence of poverty in South Asia remains the highest among the regions of Asia and is, around the world, only surpassed by sub-Saharan Africa. For Nepal, the two living standard surveys conducted during a span of eight years indicate a significant reduction in extreme poverty according to \$1 a day criterion: from 42 percent to 31 percent of the population from 1995/96 to 2003/04. While the reduction in poverty has been quite remarkable, overall inequality actually widened during the period—the Gini coefficient increased from 0.34 to 0.41. Moreover, the incidence of poverty varies widely by region, gender, and ethnic and caste groups.

Other countries in the region have also typically experienced a decline in the population living below the poverty threshold if we look at data for a decade or more. Compared to South Asia, Southeast Asia has had a much lower incidence of poverty averaging 14 percent during 1999-2000 in the four countries in our sample. The poverty picture gets much darker as we move to sub-Saharan Africa (sSA). According to our sample data, the average headcount poverty in sSa fell only two percentage points, from 52 percent around 1990 to 50 percent a decade later.

We examine the effect of growth on poverty in the context of a model that controls for several factors, the most important of which are income inequality and development level. The growth elasticity of poverty

measures the extent to which poverty falls when per capita income rises one percent. Using ideas integrated in Bourguignon (2003), we also estimate the inequality elasticity of poverty which is based on an equal proportionate change in the Lorenz curve for a given level of income (Heltberg, 2002). Finally, growth elasticity can also vary across countries that are at different stages of development. Our study emphasizes this triangular nature of poverty, inequality and economic growth. In extended versions of the model, we also explore if growth in trade openness and human capital can account for a part of poverty reduction.

We estimate our model using panel data approach by pooling the time-series observations for all countries. Our dataset consists of 19 countries and three to six observations per country. We use IMF (Iradian, 2005), WIDER (2005), and the World Bank (2005) sources for our data.

Our “naïve” two-variable model where the change in poverty is a function of growth alone shows that the percentage of the population living below the poverty line does not fall until income growth exceeds 1.3 percent a year. Above this threshold, an additional three percentage-point income growth leads to a one percentage-point reduction in poverty. Our heterogeneity test shows that the simple growth elasticity of poverty equals $-.279$ for Southeast Asia and a more impressive $-.452$ for sub-Saharan Africa which are both statistically highly significant. The elasticity for South Asia, however, takes the wrong sign and is highly insignificant. We find that this indicates a high degree of heterogeneity within South Asia itself. Poverty rose in the 1990s in Pakistan and Sri Lanka, for instance, even though their growth rates were moderately positive. Bangladesh, India and Nepal were in turn more successful in alleviating poverty with their positive economic growth.

On the other hand, African economies display a significant growth elasticity of poverty. Yet because of their extremely slow income growth on average they have been unable to take advantage of their higher elasticity value. Thus, these economies continue to experience more acute poverty.

In our more comprehensive model, we postulate that that the growth elasticity of poverty is increasing in the level of development and decreasing in inequality in income distribution. This implies that a richer country can reduce poverty faster than a poorer country with the same growth, and a society with decreasing inequality can also lower poverty faster than one where inequality is rising for a given rate of growth. Further, the effect of such a distributional change on poverty reduction is

likely to depend on the initial level of development and initial level of inequality.

The results for specifications that exploit possible interaction among these variables are, however, mixed. The direct effect of a worsening income distribution is to raise poverty for a given growth which is what we would expect. But the effect is not statistically significant. Similarly, the interaction effects between initial inequality on the one hand and growth and initial development on the other are also not significant. Adjusting for multicollinearity, we find that around the mean value of the initial development variable, a one percentage-point increase in growth rate leads to 1.24 percentage-point reduction in poverty. Compared to the simple elasticity reported earlier, accounting for the interaction of the initial level of development with real GDP growth raises the rate at which poverty declines with growth.

The regional heterogeneity persists in the extended specification as well. Only for sub-Saharan Africa does the growth coefficient stay negative and statistically significant. The elasticity coefficient for Southeast Asia loses its significance while retaining the negative sign. For South Asia, the elasticity turns positive and fails the significance test.

We also use other conditioning variables such as government expenditure to GDP ratio, broad money to GDP ratio, and the banking system credit to the private sector as a percentage of GDP. Each of these variables in separate specifications is found to exert a negative impact on poverty when we continue to control for the growth rate and growth-development interaction. But these new variables do not have significant coefficients. Only when the model includes a change in government expenditure to GDP ratio and the growth of per capita income but excludes the interaction variable between growth and development level do we find a significant and expected effect on poverty.

In sum, we verify that growth is vital to reducing poverty in each region and in the overall sample. Secondly, the initial level of development seems to interact with growth in the full sample but its significance is weak in sub-samples. Ignoring the interaction of initial development with growth reduces the value of the growth elasticity of poverty. Financial variables and government expenditure are inversely related with poverty as well, but the relationship is not significant. Finally, income distribution also does not seem to exert a significant effect on poverty independent of per capita GDP growth.

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