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Impact of growth in agricultural sector on poverty level in Pakistan

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ABSTRACT

The purpose of this study is to analyze the relationship between growth in agricultural sector and poverty in Pakistan. It explores that how much the poor people have gained from growth in agricultural sector of Pakistan by considering growth magnitude and benefits obtained by the poor people resulting from growth for the period of 1985 to 2005 through applying OLS Regression Technique. The results indicate that the variable of growth in agricultural sector is significantly and negatively associated with the variable of poverty, i.e., the growth in agricultural sector of Pakistan will result in reducing the level of poverty in Pakistan.

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Introduction

The link between poverty and growth has been a mooted issue. At one side, the growth is being regarded a fundamental element for reducing poverty (World Bank, 1990), with prerequisites of social services, health and education access. At other side, it is being realized that relationships of inequality, poverty and growth complex and non-linear. Kuznets (1955) found growth and inequality have inverted U shaped association, which describes that in the beginning, inequality will rise with growth, whereas, it will decrease at excessive growth level since growth benefits reaches to the people with low income.

The methods originated by Kanbur (2002) and Kakwani (1993) provided elasticity information for the shorter time periods but did not explain elasticity in long-term time period of inequality, poverty and growth. Datt and Martin (1992) provided better technique because it did not rely on only assumptions of statistics and but it also provided elasticity information for shorter time period by depending on two or very few surveys. David and Aart (2001) were of the opinion that growth of economy offers same benefits for the poor people as for the overall economy. Knowles (2001) also discovers that inequality negatively and significantly impact growth. James and Miguel (2000) suggested that elasticity's positive value shows that growth is good for the poor. Therefore, it is being suggested that for achieving swift poverty cutback, the Poverty Equivalent Growth Rate (PEGR) needs to be expanded instead of just achieving normal growth (Nanak and Hyun, 2004).

The rural poor people can be classified according to agricultural land access: the cultivators have land access being smaller tenants and landowners, and being landless and unskilled laborers. The people who do not cultivate may be among the poorest people in rural poor (Saboor, 2004). Moreover, the authors also determined trend analysis for income inequality and rural poverty through axiomatic technique for assessing influence of several variables on Pakistan's household poverty status, for developing PEGR to analyze the influence of agricultural growth on rural poor and for forecasting co-

integrated movement of inequality, poverty and agricultural growth.

There are very few studies which explored the association of poverty level and growth rate in agricultural sector of Pakistan. Therefore, the objective of this study is to investigate the relationship between poverty and agricultural growth in Pakistan for the period of 1985 to 2005 through applying OLS Regression Technique.

Rest of study has been arranged as follows: the materials and methods part of the study has been presented in Section 2, the results and discussions have been described in section 3, whereas, the last section describes the discussions part.

Materials and methods

The data for the period of year 1985 to year 2005 has been collected from Pakistan's Economic Surveys and United Nations Statistical Division Database. The OLS regression model has been applied in order to determine relationship of growth in agricultural sector and poverty level in Pakistan. The objective of this study is to explore the relationship of agricultural sector's growth and level of poverty in Pakistan through applying OLS regression model.

The regression model which has been estimated is as follows:

$$\text{Poverty Level} = \beta_0 + \beta_1 \text{GDP} + U_t$$

Where:

Poverty Level = Poverty headcount ratio expressed as percentage

GDP = Real GDP growth rate expressed as percentage

U_t = Representing error term

SPSS 16 software has been used for data analysis.

Results and discussions

The regression results have been estimated through OLS regression technique and the results have been presented in table 1, 2 and 3 as follows:

The results of table 1 have shown that the value of adjusted R square is 0.816 which indicate that the independent variable which has been used in this model have explained around 81.8 % of the variations occurring in poverty level of Pakistan. The value of Durbin Watson statistics is 1.614, which indicates that

there is no problem of multi-collinearity as the value is within acceptable range of 1.5-2.5. The results of table 2 have shown that P-Value is 0.000, which describes that the overall model is significant to explain level of Poverty in Pakistan and the mathematical form of the model is correct.

Table 1: Model Summary^b

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.908a	.824	.816		5.00346	1.614

a. Predictors: (Constant), GDP growth rate

Table 2: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regress	2351.530	1	2351.530	93.93	.000a
	Resid	500.692	20	25.035		
	Total	2852.222	21			

a. Predictors: (Constant), GDP growth rate

b. Dependent Variable: Poverty level

Table 3: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	96.3	2.175		44.30	.000
	GDPgrowth	-.39	.040	-.908	-9.692	.000

a. Dependent Variable: Poverty level

The results of Table 3 describes that the variable of growth rate is negatively and significantly associated with poverty level in Pakistan. It means that if the value of real GDP growth rate in Pakistan's agricultural sector will increase, it will cause the poverty level to decrease.

Conclusions

Sustainable and fast growth in agriculture can perform a significant function to achieve poverty reduction. This study recommends that growth in agricultural is indispensable for achieving reduction of poverty. This study has determined the relationship of real growth rate of GDP in agricultural sector and level of poverty in Pakistan for the period of 1985 to 2005 through applying Ordinary Least Squares (OLS) Regression Technique. The results have shown that the growth of agricultural sector can result to decrease the level of poverty in Pakistan. The government should focus on agricultural sector growth in order to decrease the poverty level in Pakistan.

References

World Bank. World Development Report: Poverty. New York, Oxford University Press. 1990.

Kuznets S. Economic Growth and Income Inequality. *American Economic Review*. 1955; 45: 1–28.

Kanbur R. Conceptual Challenges in Poverty and Inequality: One Development Economist's Perceptive. Working Paper 2002–09, Department of Applied Economics and Management, Cornell University. 2002.

Kakwani N. On a Class of Poverty Measures. *Econometrica*. 1993; 48 (2): 37–46.

Datt G, Martin R. Growth and Redistribution Component of Changes in Poverty Measures: A decomposition with application to Brazil and India in the 1980s. *Journal of Development Economics*. 1992; 38 (2): 75–95.

David D, Aart K. Growth is Good for the Poor. Policy Research Working Paper 2587:50, Washington, DC, World Bank. 2001.

Knowles S. Inequality and Economic Growth: The Empirical Relationship Reconsidered in the Light of Comparable Data. Paper for UNU/Wider Development Conference on Growth and Poverty, Helsinki, World Institute for Development Economic Research (WIDER). 2001.

James EF, Miguel S. How Good is Growth? *Asian Development Review*. 2000; 18 (2): 59–73.

Nanak K, Hyun HS. Pro-Poor Growth: Concepts and Measurement. PIDE, 19th Annual Conference, 13–15 January, 2004, Islamabad.

Saboor A. Agricultural Growth, Rural Poverty and Income Inequality in Pakistan: A Time Series Analysis. Ph.D. thesis, University of Agriculture, Faisalabad. 2004.

Economic Surveys of Pakistan website (www.finance.gov.pk)
United Nations Statistical Division Dataset website (www.unstats.un.org/unsd/default.htm)

Nanak K, Hyun HS. Poverty Equivalent Growth Rate. *Review of Income and Wealth*. 2008; 54 (4): 643–655.

Rashid A, Kemal AR. Macroeconomic Policies and Their Impact on Poverty Alleviation in Pakistan. *The Pakistan Development Review*. 1997; 36 (1): 39–68.

Talat A. Long-Term Changes in Income Distribution in Pakistan: Evidence Based on Consistent Series of Estimates. Islamabad: Centre for Research on Poverty Reduction and Income Distribution, Discussion Paper Series No. 03. 2005.

Talat A. Changes in Inequality of Consumption and Opportunities in Pakistan during 2001/02 and 2004/05. Islamabad: Centre for Research on Poverty Reduction and Income Distribution (CRPRID). 2006.

Nanak K, Pernia E. What is Pro-poor Growth? *Asian Development Review*. 2000; 16 (1): 1–22.

Martin R, Shaohua C. Measuring Pro-Poor Growth. *Economic Letters*. 2003; 78 (1): 93–99.