

An Economic Analysis of Determinants of Household Level

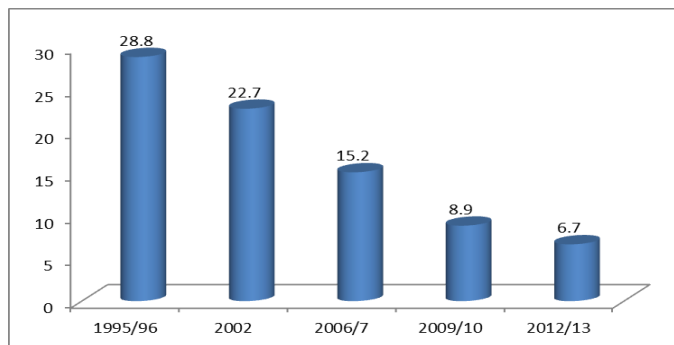
Poverty in Sri Lanka: 1990 - 2010

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Introduction

According to the Food and Agriculture Organization (FAO), most of the world's poor live in rural areas, often in isolated conditions where they face problems including poor natural resources, underdeveloped infrastructural facilities, lack of access to markets, fluctuating commodity prices, lack of employment opportunities, and vulnerability to natural disasters (FAO, 2010). These problems mean that the definition of poverty is broader and more complex than a mere lack of money, and the multidimensional nature of poverty is increasingly recognised. Eradicating poverty is a difficult and complex challenge for any developing country. However, as successive governments in Sri Lanka have given highest priority to welfare programs while improving other aspects of the economy over time, poverty has declined significantly within last two decades. The Household Income and Expenditure Survey (HIES) (2012/13) indicates that the poverty headcount ratio has dropped tremendously to single digit level, at 6.7 per cent (Graph 01). However, regional disparities still remain high. As such people just above the poverty line are likely to drop back due to policy shocks. Therefore poverty studies in Sri Lanka are still command considerable attention of policymakers. Analysis of determinants of household poverty is imperative in order to develop strategies for efficient and effective intervention schemes aimed at poverty reduction. A key point in poverty analysis is the poverty profile, where poverty measurements provide significant yardsticks for understanding the nature of poverty which differs from region to region and country to country.

Figure 1: Poverty trends in Sri Lanka



Source: *Dept. of Census and statistics*

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Differences in the concepts and definitions used and in data sources and measurement assumptions caused changes in the poverty profile of each country, whereas poverty data itself may not represent the real picture of poverty in a country. Since there is no reason to believe that the root causes of poverty are the same everywhere in the world, country-specific poverty analyses are indispensable in designing effective local poverty reduction programmes. Thus, analytical work on determinants of poverty and their changes over time is a timely need in the context of Sri Lanka as most studies are descriptive, and focus on measurement issues.

Literature Review

Considerable analytical efforts have been made within the last two decades in poverty-related literature directed towards driving good practices in measuring poverty in all its dimensions and generating the required data. Those studies primarily focus on determinants of poverty, on how changes in economic policy influence incidents of poverty, and on various other measures of poverty (Datt & Jolliffe D., 1999; Datt & Ravallion, 1992; De Silva, 2008; Deaton, 1997; Mok, Gan, & Sanyal, 2007; World Bank, 2005). Most poverty studies are based on multivariate regression analysis to identify determinants of poverty at household level, using reduced-form models of various structural relationships (Glewwe, 1991). Literature indicates that regardless of the definition of the poverty line, the most commonly used dependent variables in poverty functions are dichotomous in nature or are measures of the poverty gap. Although there is a rich literature on poverty, focusing on the measurement of poverty and related issues, there are limited studies on poverty determinants in Sri Lanka (De Silva, 2008; Gunawardena, 2004). Till now there has been no appropriate attempts to identify changes in poverty determinants over time and across economic sectors in Sri Lanka; the present study attempts to fill this gap.

Objectives of the Study

This paper attempts to identify and analyse the main factors which have determined household poverty in Sri Lanka within the last two decades, using four comparable household surveys conducted in 1990/91, 1995/96, 2006/07 and 2009/10.

Methodology

Selected variables were fitted into probit regression models to examine the poverty determinants of the past two decades. The advantage of this approach is that due to

the discrete dichotomous nature of the dependant variable, the coefficients examine the probability of poverty status in a household as the right-hand side variables change. This study employs data from four comparable Household Income and Expenditure Surveys (HIES) conducted by the Department of Census and Statistics Sri Lanka.

Results and Discussion

Table 01 demonstrates the results of the probit regression (marginal effect) for poverty determinants, and their changes from Sri Lanka from 1990 to 2010. Almost all the independent variables are statistically significant in the models and are economically meaningful. The results indicate that additional years of education of the head of the household and of the other members of the household had a greater impact on poverty reduction in the early survey periods than in the 2010 survey. Himaz and Aturupane (2011) noted a distinct jump in household poverty reduction for an extra year of education at the levels where national exams are completed. Research in other countries also shows that the education of the head of the household is negatively correlated to poverty (Datt & Jolliffe, 1999; Mok *et al*, 2007). Therefore, it can be concluded that education variables are significant in the model and that education helps to reduce the likelihood of being poor, indicating that education is a strong poverty determinant in Sri Lanka.

Also, changes in the direction of impact of the determinants (sign of the variables) can be examined over the years. Among all poverty determinants, foreign remittances have been the most influential factor for reducing poverty, although the magnitude of this factor has declined over the years. In contrast, the dependency ratio, the indicator for female-headed households, the household head being employed in the private sector or self-employed, and household size are factors which are positively correlated with household poverty. Considering geographical variables, both rural and estate sector households are more likely to be poor in Sri Lanka relative to urban households. This is because regional disparities in terms of economic and social development are high in Sri Lanka and thus, the location of the household partially determines poverty. Estimates from the model demonstrate that female-headed households are more likely to be poor in Sri Lanka, *ceteris paribus*, though this impact on poverty is diminishing over time.

Table 1: Determinants of household poverty in Sri Lanka: 1990-2010 probit

Poverty determinants	1990/91	1995/6	2006/7	2009/10
Household Head:				
Age	-0.001 (14.00)**	-0.003 (21.15)**	-0.000 (2.50)*	-0.000 (1.99)*
Employed in government sector	-0.069 (12.99)**	-0.053 (5.82)**	-0.039 (7.91)**	-0.035 (10.05)**
Employed in private sector	0.085 (17.92)**	0.165 (29.51)**	0.041 (13.85)**	0.037 (13.93)**
Self-employed	-0.023 (6.11)**	0.051 (9.96)**	0.007 (2.31)*	0.007 (2.74)**
Engaged in non-agricultural job	-0.017 (4.85)**	-0.085 (18.57)**	-0.014 (5.90)**	-0.025 (12.42)**
Education (number of years)	-0.015 (35.89)**	-0.029 (50.42)**	-0.011 (36.78)**	-0.002 (8.16)**
Ethnicity (Non-Sinhalese=1)	-0.020 (4.92)**	-0.063 (10.62)**	-0.043 (17.09)**	0.006 (3.02)**
Household Demography :				
Spouse employed	-0.012 (3.80)**	-0.012 (2.80)**	0.008 (3.31)**	-0.002 (0.84)
Female-headed household	0.033 (4.23)**	0.033 (5.91)**	0.021 (7.10)**	0.018 (7.80)**
Average education of other members (No of years)	-0.024 (37.29)**	-0.041 (47.23)**	-0.017 (36.11)**	-0.006 (14.44)**
Household size	0.038 (60.10)**	0.066 (65.73)**	0.026 (49.13)**	0.019 (45.47)**
Female adult ratio	-0.039 (2.78)**	-0.095 (6.46)**	-0.015 (1.62)	-0.048 (6.85)**
Dependency ratio	0.126 (17.56)**	0.191 (17.20)**	0.027 (4.95)**	0.037 (7.69)**
Remittances:				
Local Remittance	-0.008 (0.96)	-0.192 (21.70)**	-0.032 (7.88)**	-0.013 (3.88)**
Foreign Remittance	-0.087 (13.44)**	-0.085 (8.54)**	-0.050 (12.32)**	-0.044 (16.15)**
Region:				
Rural	0.067 (20.75)**	0.235 (45.06)**	0.076 (28.98)**	-0.015 (4.89)**
Estate	-0.069 (9.98)**	0.155 (16.74)**	0.154 (26.25)**	
Urban				-0.051 (18.54)**
Observations	89967	88935	75822	79585

regression estimates (marginal effects)

Source: Author calculations using HIES data, Sri Lanka.

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Note: Dependent variable: expenditure per capita per month is used to form the dummy variable (poor =1). Robust z statistics in parentheses * significant at 5%; ** significant at 1%

Conclusion and recommendations

In conclusion, the covariates of educational attainment of the household head and other members of the household, receipt of foreign and local remittances, higher female adult ratio, and the household head being employed in a Government job are the significant factors which have reduced poverty in Sri Lanka within the last two decades. Although the magnitude of the covariates has declined over the years, the magnitudes of the covariates of female adult ratio and receipt of local remittances increased over the period 1990–2010. The factors of larger household size, female-headed households, and the household head being employed in private jobs or self-employed contribute to increased poverty in Sri Lanka.

Econometric analysis of household survey data indicated that education and remittances were the main factors that reduced poverty in Sri Lanka over the last two decades. Significant variations were identified regarding the direction and magnitude of the poverty determinants in each economic sector.

Key Words: Poverty determinants, poverty changes, probit regression, Sri Lanka

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