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CONSUMPTION POVERTY IN POST- CONFLICT SRI LANKA: A COMPARATIVE STUDY OF THE NORTHERN, EASTERN, UVA AND SABARAGAMUWA PROVINCES

Jeyapraba Suresh

Department of Economics, Eastern University, Sri Lanka.

sureshj@esn.ac.lk

ABSTRACT

Over the past three decades, there has been a consistent decrease in the rate of consumption poverty in Sri Lanka, with a notable decline following the end of the civil war in 2009. However, significant regional variations in the poverty reduction experience are apparent, with the conflict-affected North and East, and the still backward Uva and Sabaragamuwa provinces, having the highest rates of poverty. Adopting Sen's (1993) Capability approach, this study investigates the factors associated with consumption poverty in poorest regions using nationally representative sample survey data for the years 2012/13 and 2016. The poverty threshold was determined as the poorest consumption quintile and the factors associated with the probability of being in the poorest quintile were investigated using binary logit regression estimation. The analysis of the covariates of poverty in these poorest provinces finds that specific characteristics of the household such as age, ethnicity, gender, and the level of education of the head of the household; household size; and the household's receipts of remittances and pensions are significant predictors of the likelihood of poverty. The findings of this study suggest that promoting the optimal allocation of resources between regions, are likely to help the poor earn their way out of poverty.

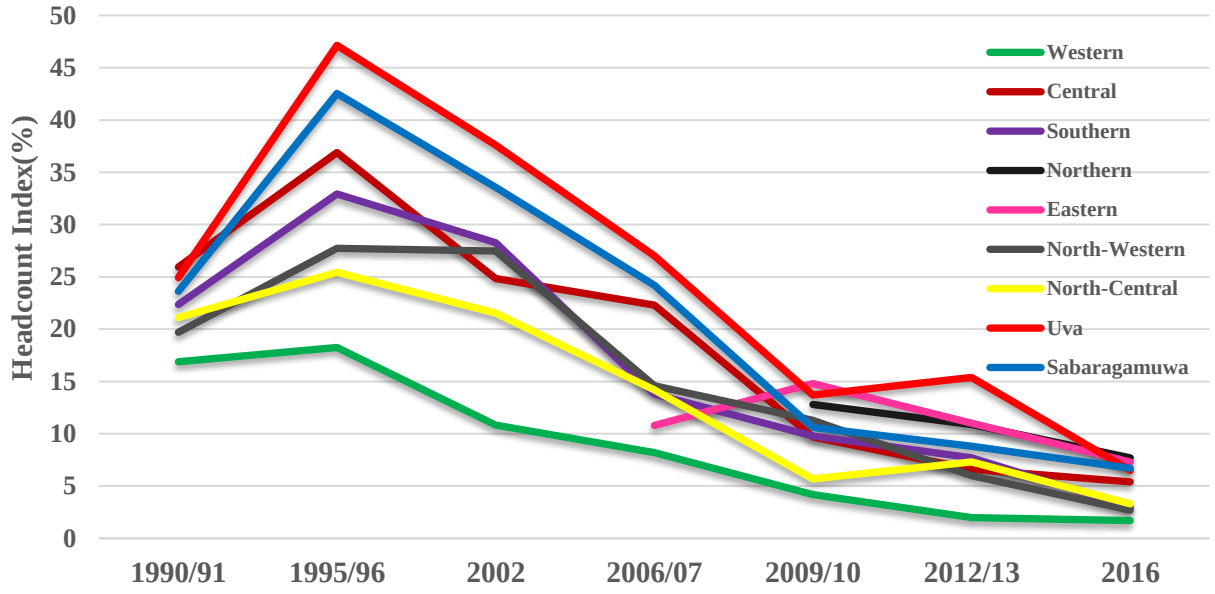
Keywords: poverty, poorest quintile, capability, regional variation, Sri Lanka

1. INTRODUCTION

Sri Lanka has been successful in reducing poverty over the last three decades, but significant numbers remained in poverty, particularly in the conflict-affected Northern and Eastern areas and in Uva and Sabaragamuwa provinces where poverty rates reduced very slowly and even increased in recent times. Poverty levels in all provinces increased sharply during the period from 1990/91 to 1995/96 and started to decline gradually over the rest of the period up to 2019 except in some provinces where poverty rates appear to have fluctuated during the survey years. Figure 1 presents the poverty headcount index by province for the period after the civil war, that is 2009/10 to 2019, which is the focus of this study so that the fluctuations in poverty rates are clearer. For example, the poverty headcount index has declined in all the provinces except Uva and North Central between 2009/10 and 2016. However, poverty has increased in Uva

and North Central from 2009/10 to 2012/13 and decreased only in 2016. During the most recent period for which data is available, consumption poverty declined in all of Sri Lanka's provinces.

Figure 1: Poverty Headcount Index by Province 1990/1991-2016



Source: Compiled from data published by the Department of Census and Statistics, (various years) Household Income and Expenditure Surveys, Final Reports.

Turning to the provinces of interest, since the government lost control of large tracts of the North during the conflict for a long period, the necessary survey-based data from the province could not be collected during this time. In fact, even HIES 2009/10 only covered the better off regions of Jaffna and Vavuniya in the Northern province whereas with the war's end, all districts were covered in 2012/13 and 2016. In contrast, data for the Eastern province has been available for the last four HIES surveys, 2006/07, 2009/10, 2012/2013 and 2016. Even so, the 2006/07 survey did not cover Trincomalee District and the large numbers of displaced persons living in welfare camps at the time of the survey. This makes the poverty estimate for that year unreliable, as only the better-off residents who were not in welfare camps were covered in the survey. Therefore, poverty may have been much more widespread that year than shown by the estimate. For instance, data from the survey of 2009/10 (see Table 1), showed Eastern province as having the highest rate of consumption poverty, that is 14.8 per cent although there was no data for the poorest districts of Northern province that year. Nevertheless, poverty in Eastern province appears to have declined since then, but while it remained the second poorest province in the country, the data from Northern Province confirmed that poverty rates in the north were higher. In fact, poverty rates in the Northern Province and Eastern provinces after the war have been similar: In 2012/13 and 2016, poverty levels in the North were 10.9 per cent and 7.7 per cent, respectively, while Eastern province posted rates of 11 and 7.3 percent for the same years.

Uva and Sabaragamuwa continue to be the poorest among provinces outside the conflict-affected region. Except in 1990/91 and 2009/10, Uva province has been the poorest next to Eastern province. Sabaragamuwa province was the

second poorest in the decade 1995/96 and 2006/07, and in the post-conflict era, it has posted poverty levels close to those of the war-affected provinces.

However, even in these provinces, there are significant variations in the rates of poverty reduction even at the lower administrative level of the district. Table 1 also presents district-level poverty ratios for the four provinces that have remained poor over the last ten years. Moneragala, a poor agricultural district in Sri Lanka's dry zone has experienced the highest incidence of poverty over the last two decades until the data became available from the former conflict zones, at which time Batticaloa, Killinochchi and Mullaitivu emerged as the poorest districts. However, after the war ended some districts in these two provinces such as Ampara and Mullaitivu, were able to reduce poverty significantly, but in others, the decline has been slower.

Table Error! No text of specified style in document. **Poverty headcount index: the districts of Northern, Eastern, Uva and Sabaragamuwa**

	1990/91	**1995/96**	**2002**	**2006/07**	**2009/10**	**2012/13**	**2016**
North	-	-	-	-	12.8	10.9	7.7
Jaffna	-	-	-	-	16.1	8.3	7.7
Mannar	-	-	-	-	-	20.1	1.0
Vavuniya	-	-	-	-	2.3	3.4	2.0
Mullaitivu	-	-	-	-	-	28.8	12.7
Kilinochchi	-	-	-	-	-	12.7	18.2
East	-	-	-	10.8	14.8	11.0	7.3
Batticaloa	-	-	-	10.7	20.3	19.4	11.3
Ampara	-	-	-	10.9	11.8	5.4	2.6
Trincomalee	-	-	-	-	11.7	9.0	10.0
Uva	24.9	47.1	37.6	27	13.7	15.4	6.5
Badulla	31.0	41.0	37.3	23.7	13.3	12.3	6.8
Monaragala	33.7	56.2	37.2	33.2	14.5	20.8	5.8
Sabaragamuwa	23.6	42.5	33.5	24.2	10.6	8.8	6.7
Ratnapura	30.8	46.4	34.4	26.6	10.4	10.4	6.5
Kegalle	31.2	36.3	32.5	21.1	10.8	6.7	7.1

Source: Compiled from data published by the Department of Census and Statistics, (various years) Household Income and Expenditure Surveys, Final Reports.

Given this varied experience in poverty reduction, it is pertinent to ask, what were the factors associated with the comparatively higher prevalence of poverty in Sri Lanka's four poorest provinces, namely the North, East, Uva and Sabaragamuva provinces. An understanding of these factors is likely to yield rich insights that can inform the

formulation of appropriate poverty alleviation strategies at the level of the province. This is the overarching objective of this study.

2. REVIEW OF RELATED LITERATURE

Numerous empirical studies have examined the factors associated with poverty, both at the individual and household levels. International literature on poverty has explored various aspects, including the characteristics of individuals, households, and communities that contribute to poverty. These studies provide insights into the complex and multifaceted nature of poverty, helping policymakers and practitioners design effective poverty reduction strategies.

The age of household heads has been extensively studied in relation to poverty (Lloyd-Sherlock, 2000; d'Ambrosio et al., 2011; Akarro and Mtweve, 2011; Nguyen et al., 2020). The U-shaped relationship between age and poverty can be explained by life-cycle theories, which suggest that people are most vulnerable to poverty during their early and late stages of life, while they have better chances of earning income during their middle age. Ethnicity can also correlate with poverty. Generally, the incidence of poverty tends to be higher among ethnic minorities than among major ethnic groups. There are many reasons for this. Some studies found that this is due to spatial factors (Van de Walle and Gunewardena, 2001; Baulch et al., 2002; Gang et al., 2008; Gustafsson and Sai, 2009). For example, ethnic minorities are mostly located in marginal areas where lack of technology development, lack of market access and poor health facilities prevail. Van de Walle and Gunewardena (2001) found that the difference in standard of living in northern rural Vietnam was due to the location of minorities. They tended to live in less productive areas, with arid land, poor infrastructure and lower accessibility to market and off-farm work.

It has been empirically shown that poorer households tend to have a relatively larger number of members in many countries (Datt et al., 2001; Okurut et al., 2002; Orbeta, 2005; Gang et al., 2008; de Silva, 2008 and Meyer and Nishimwe-Niyimbanira, 2016). Using the Egypt Integrated Household Survey (EIHS) of 1997, Datt et al. (2001) found that the extremely poor live in larger households and that non-poor households have fewer members. It was found that on average, there are more than two additional members in the extremely poor households compared to non-poor households.

Poverty is largely prevalent among people who are less educated. Tilak (2002, p 199) cites Galbraith (1994) in arguing that there is "no well-educated literate population that is poor, and there is no illiterate population that is other than poor". Several empirical studies have found significant differences in education between the poor and the non-poor. For instance, Datt et al. (2001) found that for Egypt, the average years of schooling for poor people was 4.4 while the non-poor had attended school for 7.0 years on average. In Egypt, 66.5 per cent of the non-poor could read and while only 48.4 per cent of the poor could read. Using Ethiopian household data for the years 1994, 1995 and 1996, Girma and Kedir (2005) reported that the poor benefit more from education than the rich. Their quantile regression estimates found that the return to education is more than 10 percentage points higher at the 25th quantile, than the returns to education at the 90th quantile.

Islam (2004) conceptualized the link between growth, employment and poverty in terms of a virtuous circle. He argued that economic growth leads to poverty reduction through the growth of employment with rising productivity, which in turn reduces poverty creating the possibility of further increases in productivity and higher rates of economic

growth. Hasan et al. (2013) theorized that growth not only stems from increases in productivity but also from a reallocation of resources from low productive to high productive sectors. There are many empirical analyses of the links between growth, employment and poverty reduction.

The review noted that while there is a substantial Sri Lankan literature on the prevalence of poverty and some national level analyses about the covariates of poverty in the country, there has been little attention paid to understanding the covariates of poverty at sub-national level, particularly in the country's poorest regions. This is the research gap that this study seeks to address.

3. DATA AND METHOD

The study used Household Income and Expenditure (HIES) surveys 2012/13 and 2016 data. In this study, we investigate the covariates of the probability of an individual being poor by estimating the following binary logit model:

$$\Pr(\text{poor} = 1 | \, \mathrm{X}_1, \ldots, \mathrm{X}_\mathrm{n}) = F(\beta_0 + \beta_1 X_1 + \cdots + \beta_n X_n) \qquad (4.1)$$

In the equation above, the variable poor indicates whether the individual is in the lowest quintile of the per capita consumption expenditure, Xn are vectors of groups of explanatory variables and βn are the parameters reflecting the impact of change in Xn on the probability of being poor.

In this model, we define the outcome variable as whether or not the per capita household expenditure falls into the lowest consumption quintile, that is whether the household is among the 20 per cent of the population of households with the lowest per capita consumption expenditure in each survey year. Since the outcome variable is binary and takes the value one if the household's per capita consumption expenditure places it in the lowest quintile, and zero, it does not. Thus, if the household's per capita consumption expenditure falls into the 2nd, 3rd, 4th or 5th quintile, the household is considered as non-poor.

4. RESULTS AND DISCUSSION

This section presents the results of estimating the factors associated with the probability of being poor in each of these four provinces in the two survey years of 2012/13 and 2016. The marginal effects of estimating the models for the Northern and Eastern provinces are set out in Table 2 and results for Uva and Sabaragamuwa provinces are set out in Table 3. The estimation did not use sample weights in the calculation of standard errors.

First, we look at the results of the estimation of models for Northern province in Table 2. The marginal effects of ethnic characteristics of the head of household suggest that households with Moors and Tamils as heads are less likely to be poor than households with Sinhala heads in 2016, but only the marginal effect of households headed by Moors is statistically significant in 2016. Gender of the head of the household is a significant factor associated with the probability of being the household in the poorest quintile. The marginal effect of female-headship suggests that a household headed by a woman was 70 per cent more likely to be poor than a male-headed household in 2012/13 but by a much lower 36 percent in 2016. Share of children among the household members and household size are also significant predictors of the probability of being poor in Northern province.

Education appears to significantly influence the probability of being poor in Northern province. The marginal effects of the educational attributes suggest that households with better-educated heads are less likely to be poor than households with heads who have only primary education or less. For instance, the household whose head was educated at least up to advanced level was around 196 and 186 percentage points less likely to be poor than the head of the households has primary or less education in 2012/13 and 2016 respectively. Moreover, if the household head had studied up to secondary level, that household was 38 percentage points less likely to be poor than households whose heads had primary or less education in both years.

Employment of the household head, another indicator of Capability, is also associated with poverty. According to Table 2, if the household head worked in the public sector or was self-employed, the household was less likely to poor than if the head of the household had not been working in both 2012/13 and 2016. However, the marginal effect is not statistically significant in either of the estimations. By contrast if the head of the household works in the private sector, the household was more likely to be poor but the marginal effect is statistically significant only for 2012/13 estimation. In terms of occupation, households with heads in high-skilled occupations were less likely to be poor than the head in low skilled occupations, and the marginal effect is statistically significant for 2016 model. While household heads in middle-skilled occupations are more likely to be poor than low skilled heads, the marginal effects are not significant in both estimations. Ownership of assets in terms of land or home is associated with a significantly lower probability of being poor and the probability is greater for 2016 than for 2012/13. For example, the marginal effect for per capita land size suggests that if the per capita land size increases by one percentage point, the probability of the household being poor reduces by one percentage point and three percentage points in 2012/13 and 2016 respectively. However, the effect is statistically significant only in the 2016 model at the five per cent critical level.

Receiving remittances is another significant factor associated with the probability of being poor in Northern province. Households which receive remittances are significantly less likely to be in poorest consumption quintile than households that do not receive remittances. For example, the household that received remittances was 35 percentage points less likely to be in lowest consumption quintile than the household that did not receive remittances in 2012/13 whereas this figure increased to 61 percentage points in 2016. In this context, the finding in our descriptive analysis that relatively fewer households received such transfers in 2016 compared to 2012/13 is cause for concern given the poverty-alleviating effect of remittances that the econometric analysis discussed here has shown. However, contrary to expectations, the results for 2012/13 show a significant positive marginal effect for the pension, suggesting that the household with members who receive a pension was 66 percentage points more likely to be in the poorest consumption quintile than the household which does not receive a pension. We are unable to explain why this may be so.

Rural households are more likely to be poor compared to households in urban areas in Northern province, and the marginal effect is also significant at the one per cent critical level. For instance, the estimation of the probability of being consumption poor in 2012/13 and 2016 shows that rural households are approximately 88 and 105 percentage points more likely to be poor than urban households respectively. The results confirm that poverty is a rural phenomenon in Northern province.

In contrast to Northern province, in Eastern province, age and age square of the household head are significant predictors of the probability of being poor in 2012/13 as well as 2016. There is an inverse relationship predicted between age and the probability of being poor, that is the older the head of household the less likely that the household

is poor. The marginal effect of the ethnic characteristic of the head of the household are also significant predictors of the likelihood of being poor. But unlike in Northern province, Tamil heads in Eastern province are more likely to poor than Sinhala heads whereas Moor-headed household is less likely to be poor than a Sinhala headed household. Again in contrast to Northern province where female headship was associated with a greater likelihood of being poor all other things being equal, the marginal effects for Eastern province, though positive, are not statistically significant in any of the estimations. Thus, since female-headed households are not statistically more likely to be in the lowest consumption quintile, gender of the household head does not appear to be a significant predictor of the probability of being poor in Eastern province. The marginal effect of the share of children implies that if the share of children in the households increased by one percentage point, the probability of being poor increased by 44 percentage points in 2012/13 and by a much larger 140 percentage points in 2016, but the result is statistically significant only for 2016. Household size is another significant predictor of the likelihood of poverty in Eastern province. The marginal effects suggest that when household size increases, the likelihood of the household being poor also increases in both periods.

All the variables denoting education attainment of the head of household are statistically significant predictors of the probability of being poor in Eastern province, too. The more educated the head of household, the significantly less likely that the household is poor relative to base category: primary or less education. However, unlike in Northern province, the marginal effects in the models denoting the employment status of the household heads are not statistically significant predictors of poverty. However, like in Northern province, households with heads in a high-skilled and middle-skilled occupations were less likely to be poor than the head in low skilled occupations, and the marginal effect is significant for 2016 model. The marginal effect for per capita land ownership is also significantly associated with the lower likelihood of poverty in Eastern province and the association is statistically significant in 2012/13 and 2016 estimations. Receiving monthly remittances and pensions reduce the probability that a household is poor than if the household did not receive either. But the marginal effects for both variables are significant only for 2016. Residence in a rural area is associated with an increased likelihood of a household in Eastern province being poor than a similar household resident in an urban area. Nevertheless, although the marginal effect was statistically significant in the 2012/13 model, it is not significant to 2016.

Table 2 Factors associated with the probability of being in the lowest quintile, marginal effects of logistic regression: Northern and Eastern provinces- 2012/13 and 2016

	Northern Province		**Eastern Province**	
	2012/13	**2016**	**2012/13**	**2016**
Demographic Variables				
Age	0.044	-0.056	-0.0863**	-0.0712*
	(0.0340)	-0.0313	(0.0332)	-0.0303
Age Squared	-0.0004	0.0005	0.0008*	0.0008**
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Tamil Head	0.639	-0.5065	0.1278	0.5424**
	(0.5386)	(0.2862)	(0.1941)	(0.1663)
Moor Head	0.3289	-1.7055***	-0.5814**	-0.1899
	(0.6070)	(0.4114)	(0.2171)	(0.1808)
Female head	0.6957***	0.3544*	0.3435	0.3035
	(0.1899)	(0.1517)	(0.2034)	(0.1715)
Share of children	1.5054***	0.8746**	0.4452	1.4057***
	(0.3549)	(0.3196)	(0.3626)	(0.3299)
Share of old- parents	0.5192	0.3298	-0.0948	-0.1916
	(0.5805)	(0.4364)	(0.8659)	(0.5931)
Household size	0.2806***	0.2810***	0.5039***	0.4103***
	(0.0408)	(0.0368)	(0.0443)	(0.0436)
Capabilities	-0.3749**	-0.3847**	-0.8232***	-0.8874***

Secondary education				
	(0.1323)	(0.1213)	(0.1504)	(0.1310)
GCE O'Level Qualification	-1.0502***	-1.0938***	-1.2022***	-1.1782***
	(0.2946)	(0.3139)	(0.2829)	(0.2295)
GCE A'Level and above Qualification	-1.9581***	-1.8577***	-1.6743***	-1.9111***
	(0.3788)	(0.3342)	(0.3395)	(0.2882)
Public employee head	0.0016	-0.2472	-0.0104	-0.5716
	(0.4006)	(0.3003)	(0.3370)	(0.3004)
Private employee head	0.6675**	0.2247	0.5260*	0.2148
	(0.2160)	(0.1794)	(0.2223)	(0.2054)
Self- employed head	-0.0674	-0.2933	0.2531	-0.0692
	(0.2497)	(0.2059)	(0.2542)	(0.2081)
Head in high skilled occupation	-0.3949	-0.5832*	-0.2425	-1.6957***
	(0.2966)	(0.2870)	(0.2899)	(0.4952)
Head in middle skilled occupation	0.2408	0.101	-0.1002	-0.0112
	(0.1601)	(0.1413)	(0.1786)	(0.1418)
Log of per capita ownership of land	-0.0156	-0.0313**	-0.0255*	-0.0552***
	(0.0113)	(0.0114)	(0.0125)	(0.0130)
Home ownership	-0.1089	0.0977	0.1195	0.2797*
	(0.1208)	(0.1092)	(0.1349)	(0.1225)
Received remittance	-0.3503*	-0.6134***	-0.2012	-0.4315**
	(0.1636)	(0.1416)	(0.1834)	(0.1558)
Received pension	0.6664***	-0.5029	-0.1891	-1.2371***
	(0.1980)	(0.2918)	(0.2355)	(0.3759)
Spatial Variable				
Rural	0.8793***	1.0526***	0.5265**	0.2274
	(0.1724)	(0.1991)	(0.1628)	(0.1489)
Number of observations in sample	1803	2004	1939	1956
Pseudo R-squared	0.1496	0.1446	0.1838	0.1953

Source: Estimated with micro data from Department of Census and Statistic' HIES 2012/13 and 2016

Note: The omitted categories in the dummy variable analyses are household head is Sinhala; male head of the household; head of the household has schooling primary or less; head of the household does not work; household does not have own home; head of the household occupied in low-skilled employment; household not received remittances; household not received pension; residence in urban.

Sample weights not used. Standard errors are in parenthesis.

***,** and * denote statistical significance at one percent, five percent and ten per cent level respectively.

To summarize, the analysis of factors associated with the probability of being poor in Northern and Eastern provinces suggest that certain variables are more strongly associated with a probability of the household being poor. Having a Moor head rather than a Sinhala head, having a male head, having a smaller share of children in the household, smaller household size, better educated household heads, heads employed in the public sector, ownership of land, households receiving remittances, urban rather than rural residence, are all significantly associated with a lower likelihood that a household is in lowest consumption quintile in both Northern and Eastern provinces.

We now turn to the application of the model to the analysis of the factors associated with a household being in the lowest consumption quintile in Uva and Sabaragamuwa provinces. The results are reported in Table 3. First, we look at the results for Uva province. As far as demographic characteristics are concerned, age of the head of the household is significantly associated with the probability that the household finds itself in the lowest consumption quintile of Uva province in 2012/13. The result though positive is not statistically significant in 2016. Households with Moor heads are significantly less likely to be poor than households with Sinhala heads in 2012/13; however, the results are not significant for 2016. In contrast to the Northern and Eastern provinces, female-headed households in Uva province

are less likely to be poor than male-headed households. For example, the household headed by a female was 53 percentage points and 15 percentage points less likely to be poor than a household headed by a male in Uva province in 2012/13 and 2016, respectively. However, the marginal effect is statistically significant only in 2012/13. The share of children in the household is a significant and positive predictor of the probability of being poor in the estimation for 2016. Greater household size is significantly associated with an increased likelihood of poverty. If the household size increased by one member, the likelihood of poverty increased by around 27 percentage points in both 2012/13 and 2016.

As in the other provinces, education of the head of household is a significant predictor of a household of being poor in Uva province. In 2016, however, only education up to and beyond the A' Levels is significantly associated with a lower likelihood of being in poverty. As expected, household with heads who are public sector employees, private sector employees or are self-employed are significantly less likely to be poor than households with non-working heads, but those with heads employed in the public sector are the least likely to be poor. Similarly, the household with the head engaged in a high-skilled occupation is less likely to be poor than the household whose head works in a low skilled occupation. However, the marginal effect is only significant for the 2012/13 estimation. The results for both years suggest that owning land is associated with a lower likelihood of poverty in Uva province. This is to be expected in a largely agricultural region as is Uva. Households receiving remittances and pensions are significantly less likely to be in the lowest consumption quintile. For instance, the households that received remittances were 40 and 66 percentage points less likely to be poor in 2012/13 and 2016 respectively compared to the household do not receive remittances. The association between the likelihood of poverty and spatial characteristics suggests the importance of geography in determining functionings. Rural and estate households are significantly more likely to be in the poorest consumption quintile in both years than urban households in Uva province. These results are consistent with the sector-wise poverty incidence in Sri Lanka at the national level.

Table 3 Factors associated with the probability of being in the lowest quintile, marginal effects of logistic regression: Uva and Sabaragamuwa provinces- 2012/13 and 2016

	Uva Province		**Sabaragamuwa Province**	
	2012/13	**2016**	**2012/13**	**2016**
Demographic Variables				
Age	-0.0935**	0.0145	0.0396	-0.0100
	(0.0347)	(0.0398)	(0.0439)	(0.0312)
Age Squared	0.0009**	0.0000	-0.0003	0.0001
	(0.0003)	(0.0004)	(0.0004)	(0.0003)
Tamil Head	0.458	-0.502	0.1188	-0.2226
	(0.3964)	(0.3815)	(0.3813)	(0.3607)
Moor Head	-1.7270**	-0.7515	-1.0807**	-0.587
	(0.6368)	(0.4991)	(0.4064)	(0.3310)
Female head	-0.5315**	-0.1517	0.0476	-0.0724
	(0.2053)	(0.1790)	(0.2187)	(0.1478)
Share of children	0.5965	0.8529*	1.6466***	0.7579*
	(0.4059)	(0.4251)	(0.4728)	(0.3676)
Share of old- parents	-1.2044	0.3149	0.3708	0.1461
	(0.7060)	(0.6094)	(0.8154)	(0.5136)
Household size	0.2687***	0.2671***	0.4691***	0.3976***
	(0.0517)	(0.0501)	(0.0574)	(0.0447)
Capabilities				
Secondary education	-0.6987***	-0.1494	-0.5418**	-0.7708***
	(0.1542)	(0.1506)	(0.1678)	(0.1315)

GCE O'Level Qualification	-1.7188***	0.2011	-1.8096***	-1.0479***
	(0.4334)	(0.3076)	(0.4955)	(0.2414)
GCE A'Level and above Qualification	-1.3899***	-1.4017***	-1.4427***	-2.1090***
	(0.3375)	(0.3048)	(0.3837)	(0.2954)
Public employee head	-0.9870*	-1.4900***	-0.6886	-0.7986*
	(0.3849)	(0.4079)	(0.5471)	(0.3377)
Private employee head	-0.6918**	0.0211	0.4231	0.0943
	(0.2405)	(0.2292)	(0.2389)	(0.1745)
Self-employee head	-0.8601**	-0.1554	-0.042	-0.1597
	(0.3016)	(0.2672)	(0.3068)	(0.2088)
Head in high skilled occupation	-0.8442	-0.6937*	-1.1712**	-0.8430**
	(0.4524)	(0.3274)	(0.4542)	(0.2619)
Head in middle skilled occupation	0.4542	0.2775	0.2963	-0.094
	(0.2480)	(0.2104)	(0.2471)	(0.1763)
Log of per capita ownership of land	-0.0171*	-0.0214**	-0.0189	-0.0238*
	(0.0084)	(0.0074)	(0.0140)	(0.0103)
Home ownership	0.0927	0.3075	-0.3645	-0.096
	(0.1971)	(0.1686)	(0.1953)	(0.1368)
Received remittance	-0.4004*	-0.6606**	0.0472	-0.4214**
	(0.1963)	(0.2027)	(0.2219)	(0.1572)
Received pension	0.1228	-1.3839***	0.0063	-1.7280***
	(0.2410)	(0.3931)	(0.2511)	(0.3812)
Spatial Variables				
Rural	1.3446**	3.4078**	0.5423	0.6594*
	(0.4094)	(1.0369)	(0.2870)	(0.2936)
Estate	0.7493	3.7037***	0.2057	0.8951*
	(0.4895)	(1.1041)	(0.4369)	(0.4558)
Number of observations in sample	1307	1315	1493	1943
Pseudo R-squared	0.1415	0.1422	0.1969	0.1751

Source: Estimated with microdata from Department of Census and Statistic' HIES 2012/13 and 2016

Note: The omitted categories in the dummy variable analyses are household head is Sinhala; male head of the household; head of the household has schooling primary or less; head of the household does not work; household does not have own home; head of the household occupied in low-skilled employment; household not received remittances; household not received pension; residence in urban.

Sample weights not used. Standard errors are in parenthesis.

***, ** and * denote statistical significance at one percent, five percent and ten per cent level respectively.

Turning to the results of the analysis of the probability of a household being in the lowest consumption quintile of Sabaragamuwa province, we see in Table 3 that households headed by Moors are significantly less likely to be poor than households headed by Sinhalese in 2012/13 and 2016; however, the results are not significant in the latest year. The share of children in the household and household size are positively associated with the likelihood of the household being poor in this province too.

Better education reduces the likelihood of a household being in the poorest consumption quintile in Sabaragamuwa province, too. For instance, if the household head has Advanced Level or more education, it is 144 percentage points and 211 percentage points less likely to be poor in 2012/13 and 2016 respectively than if the household head had primary education or less. While households' heads being public employees and self-employed are less likely to be poor than households with a non-working head, as in other provinces, public employment has the largest poverty reducing effect, but is statistically significant in 2016 only. Per capita land ownership by the household is significantly associated with a lower likelihood that the household is poor.

Households that receive remittances or pensions are also less likely to be poor than those that do not receive remittances or pensions, but this association is statistically significant only for the latest survey year. Moreover, the result suggests that receiving a pension is more strongly associated with the probability that a household is not poor than receiving remittances. Rural and estate populations are more likely to be poor than the urban population in Sabaragamuwa province in both models. However, the marginal effect is significant only in 2016.

In the discussion of the results of the probability analysis for Uva and Sabaragamuwa provinces, it was noted that certain variables were more strongly associated with the probability of consumption poverty. For instance, having as Moor head rather than a Sinhala head, smaller share of children in the household, smaller household size, better educated head of the household, larger per capita land size owned by household, household receiving remittances, household receiving pension, urban rather than rural or estate residence are all significantly associated with a lower likelihood that the household is being poor in Uva and Sabaragamuwa provinces.

The econometric analysis presented above for the four regions of interest, identified similar demographic, Capability and spatial related characteristics of households that are significantly associated with the probability of a household being consumption poor. However, some characteristics are not significantly associated with household being consumption poor in all four provinces. Since this chapter covered a lot of characteristics by way of presenting the results of the regional analyses, table 4 summarize the main findings for the most recent survey year, 2016. For instance, ethnicity of the head of the household was a significant factor among Northern and Eastern and but not in Uva and Sabaragamuwa provinces. Also, spatial characteristics are not significant predictors of the probability of being in consumption poverty in Eastern province.

Table 4 Comparison of the characteristics significantly associated with poverty in the four provinces in 2016

Covariates	Northern	Eastern	Uva	Sabaragamuwa
Age of the head of the household	x	√	x	x
Tamil head of the household relative to Sinhala head	x	√	x	x
Moor head of the household relative to Sinhala head	√	x	x	x
Share of children in the household	√	√	√	√
Female headed household relative to male headed household	√	x	x	x
Household size	√	√	√	√
Educational level of the household head	√	√	√	√
Household head is a public sector employee relative to not working head	x	x	√	√
Household head in high skilled occupation relative to household head in low skilled occupation	√	√	√	√
Household per capita ownership of land	√	√	√	√
Household receive remittances	√	√	√	√
Household receive pension	x	√	√	√
Household resides in rural area relative to urban	√	x	√	√
Household resides in estate area relative to urban	-	-	√	√

Source: Based on estimation results presented in Table 2 and 3

Note- "√" indicates that the marginal effects are statistically significant at the one, five or 10 per cent critical levels. "X" indicates that the results are not significant.

5. CONCLUSION

This study looked at the prevalence of consumption poverty and its covariates in Sri Lanka's poorest regions. Its particular focus was the relationship between poverty and characteristics of households such as demographic attributes, Capability-related endowments, and spatial characteristics, which have been identified as the key determinants of poverty in the international empirical literature. Given that Sri Lanka emerged from a decades old violent conflict only ten years ago, this study of the covariates of poverty in Sri Lanka is timely given that it concentrated on the regions that were part of the theatre of war, as well as other regions where poverty has persisted over decades. This issue is of particular policy relevance because while Sri Lanka's economic expansion after the war reduced consumption poverty significantly in all regions, some regions did better than others. Therefore, a better understanding of the experience of the poorest regions will be useful for the formulation of policies targeted at achieving the sustainable development agenda, especially the goal of leaving no one behind. This study therefore focused on the prevalence of poverty in the poorest regions to understand how it has changed in the post-conflict period. The analysis used micro data from the Department of Census and Statistics' HIES data of 2012/13 and 2016. Given the limitations of Sri Lanka's official poverty line, the analysis focused on the lowest consumption quintile as a more appropriate measure of consumption poverty. The findings suggest that policies to both protect the poor and promote their capabilities are needed to help alleviate their consumption poverty. In what follows we concentrate on the highlights. More details about the policy directions flowing from the findings of this study can be found in the matrix presented in table 5.

Table 5 Matrix of key findings and policy implications

Key findings	**Policy implications**
Larger families are more likely to be poor	Prioritizing larger families as one of the selection criteria of the beneficiary in providing any government development scheme Promoting family-owned business ventures and offering guidance and advice to support their business.
The household comprise with larger share of children is more likely to poor	Introducing a special welfare plan to the household with a greater share of children. Close attention required for the dietary intake of deprived children and ongoing monitoring to achieve the desired long-term outcome.
Household with less educated head is more likely to be poor	Place more emphasis on improving the quality of education accessible to the poorer segments of society. Introduce well-designed, demand-driven vocational education initiatives to draw rural youth and target foreign employment. Enhance the standard of vocational schools in rural areas through more market driven design of curricula
Household with non-working head is more likely to be poor	Promote rural economic diversification, such as the promotion of small businesses, off-farm income-generating activities and self-employment. Investment in productive infrastructure, irrigation facilities, disaster forecasting, fertilizers and seeds, electricity, transport, and roads that would make them more productive and bring higher returns to their income earning activities.

Household head in low skilled occupation is more likely to be poor	Providing more technological and soft skills (ICT and English language) and on the job training to rural youths. Provide accredited skills programmes that will help workers succeed in a work market that is more industrialised and globally interconnected. These include efforts to modernise the industry, to diversify into higher-value crops and to establish a supply chain linking small-scale farmers to new markets, alongside trade-friendly policies that take advantage of export opportunities.
Household own less value of land is more likely to be poor	Ensuring land ownership by allocating land to vulnerable people, for instance, in Ethopia, the Productivity Safety Net Progamme produces better results by shifting land ownership. The provision of secure land tenure system improves the welfare of the marginalized community. Financial growth would help disadvantaged people obtain loans through a less institutional red-tape scheme (less guarantors, paperwork, and other government regulations).
Household resides in rural area	It is important to build an integrated framework (single platform) to obtain social security and solve the problems of rural community (agriculture/farming/ job opportunities/ access of credit/ marketing etc.). Reduce growth disparity and the optimal allocation of resource between regions and set national targets in the selection of potential development priorities rather than a coalition political advantage. Facilitating the timely and efficient movement of workers and goods between the core and peripheral regions through urban hub expansion and the construction of basic infrastructure. Transition from agriculture to more sustainable service and industrial employment by interventions in the poorest regions involving targeted public and private investment.

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