International Labour Organization

# SRI LANKA'S WORKING POOR

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Ramani Gunatilaka

Ramani Gunatilaka, a Sri Lankan national, has been working as a development economist in Sri Lanka since graduating from the Universities of London and Oxford in 1992-93. Her research has concentrated on poverty alleviation, rural development and labour market issues in Sri Lanka, and more recently, on the determinants of subjective well-being in rural and urban China. In 2006 she received her PhD in Applied Econometrics from Monash University, Australia for her thesis on income distribution in Sri Lanka after economic liberalization. She has worked as an independent consultant for many international organisations such as the ADB, GTZ, ILO, Sida, UNDP and the World Bank.

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# Executive Summary

This paper presents a profile of Sri Lanka's working poor in terms of stock and characteristics; attributes associated with the probability of being working poor, and the reasons why the employed poor earn too little to overcome poverty. It applies the ILO's definition of working poverty which characterizes the working poor as those who both work and belong to poor households, and uses data from the Household Income and Expenditure Survey (HIES) of 2006/7 for the analysis. The national poverty line developed by the Department of Census and Statistics is used to determine whether a household is poor, but it also uses the PPP-adjusted $1.25 and $2.00 per individual per day poverty lines to generate working poverty figures to enable international comparison.

Two limitations of the HIES data have a bearing on the findings of the study. First, the HIES definition of employment does not allow as precise a measurement of employment as required by the international definition and consequently this is likely to have resulted in underestimating the stock of working poor in Sri Lanka. Secondly, the non-availability of information about working hours constrained the analysis about the factors that determine the earnings of the poor and working poor, and set certain limits about what can be inferred from the results relating to returns to productive attributes of workers.

## The working poor and their characteristics

According to the national poverty line, 13.7 per cent or roughly a million of employed Sri Lankans were poor in 2006/07. The working poverty figures for the $1.25 and $2 per individual per day poverty lines were 6.4 and 28.0 per cent respectively, suggesting a high degree of vulnerability just above the lower poverty line. The urban sector has the lowest concentration of the working poor and the estates the highest concentration. Working poverty rates are significantly lower in the Western Province and they are highest in Uva, Sabaragamuwa and Central Provinces. The distribution of the working poor between the two sexes - males 69 per cent and females 31 per cent - mirrors the distribution across sexes of the employed population as a whole.

Agriculture is the main repository of working poverty, with 43 per cent of all working poor and 54 per cent of working poor females employed in the sector. Manufacturing accounts for only 15 per cent of the working poor, while sub sectors in the services sector, apart from health and social work (15 per cent) and construction (9 per cent), are less associated with working poverty than either agriculture or manufacturing. The working poor are also more highly concentrated among wage and salaried workers while the lower skilled occupation categories are the largest repositories of working poverty. In particular, 45 per cent of poor women work as production workers. The working poor are also less well educated. Almost half of them, a greater proportion of women (53 per cent) than men (47 per cent), have only primary education or less.

## Factors associated with the likelihood of being working poor

Older workers and males were less likely to be poor. Higher levels of education and higher occupation levels reduced the likelihood that a worker is poor. Compared to own-account work, working in the public sector, as an employer, or as an own account worker was less associated with poverty, while working as private employees, most likely as informal workers, was more associated with being poor. A higher dependency ratio was found to be more strongly associated with the likelihood of being poor, suggesting that access to employment and decent earnings are important for coming out of poverty. Urban residence was less associated with working poverty than living in either rural areas or in plantations, while workers living further away from administrative centres and lacking access to infrastructure were more likely to be poor.

Thus, the typically poor worker in 2006/07 had less income from remittances, was relatively young, was female, was either Indian Tamil or Sinhalese, was less educated, belonged to the production, agricultural or elementary occupations, worked in the agriculture sector, was an own account worker or an employee in the private (probably informal) sector, lived in rural or estate areas far from administrative centres, and in communities not served by power or telephone lines. On the other hand, the typical worker belonging to the non-poor category had access to income from remittances, was older, was male, belonged to ethnic groups other than Indian Tamil or Sinhalese, was better educated, worked in the more skilled occupation grades in the manufacturing and services sectors, was urban-based and well-connected in terms of transport, and lived in communities served by power and telephone lines. However, comparing the typical working poor woman with the typical working poor man, the study found that the woman was likely to earn less, was more likely to be a production worker resident in rural areas, but less likely to be a plantation worker.

## Reasons why the poor earn too little to come out of poverty

Even though educational attainment was found to have a monotonic and large impact on earnings for the sample as a whole, the relationship breaks down with respect to GCE O Level and A Level qualifications of the working poor. This suggests that lower hours of work by the better educated working poor, or their operating in segmented markets, may have an impact on earnings.

Higher skilled occupations brought higher returns for the working poor than for the working non-poor but lower-skilled occupations provided much lower returns for the working non-poor. The working poor also earned significantly more than their non-poor counterparts if they were public or private employees, or employers. This again could be due to differences in hours of work with the poor putting in longer hours than the non-poor, or else it could be due to the working poor operating in a segmented labour market.

The study also found the working poor less able to enjoy the returns from experience - poor women even less than poor men, and that males earn more, whether they are poor or not. Poor working Sri Lankan Tamils and Moors earn more than poor working Sinhalese. None of the community variables such as sector of residence, connectivity and infrastructure access were found to be significant determinants of the working poor's earnings.

The study was able to evaluate the impact of differences in these attributes between the working poor and non-poor on earnings differentials between the two groups by deploying the Oaxaca-Blinder decomposition methodology. The analysis found that such differences accounted for two thirds of the earnings gap between employed poor and non-poor. Differences in occupation between the poor and non-poor contributed the most, followed by differences in education attainment and industrial sector of occupation. The third of the earnings gap that observed differences in attributes between the two groups left unaccounted for, was mostly driven by unexplained components related to demography and education. Differences in hours of work could also contribute to the unexplained part of the earnings differential. Differences in ethnicity, job status and sector of residence between the two groups worked to reduce the earnings differential, as did unexplained components related to these characteristics.

Analysis of the earnings gap between the poor and non-poor by sex showed that differences in attributes, mostly occupation and then education, accounted overwhelmingly for the earnings differential between poor and non-poor women. Differences in connectivity and infrastructure also contributed to widening the earnings differential. In contrast, only half of the earnings gap between poor men and non-poor men could be accounted for by differences in observed characteristics between the two groups. While differences in occupation contributed handsomely, unexplained factors related to demography, ethnicity and education together contributed much more.

## Directions for policy and future research

One of the key policy conclusions to emerge from this study is to improve the data necessary for this type of analysis by introducing a more precise definition of employment and questions about the hours of work of employed individuals, to the HIES questionnaire.

While more precise information about earnings and employment will improve the quality of similar analyses in the future, there is still much to be gleaned by way of inputs for policy formulation from the present study. The findings of this study again underline and highlight the importance of educational attainment to enhance the income earning capability of the working poor, as a means of getting out of poverty. Since education and training in turn determines occupations and jobs, themselves important determinants of earning capacity, improving poor people's skill levels is a sure way of equipping them with the necessary productive characteristics to earn more and get out of poverty. Women, in particular, are likely to benefit from policies aimed at improving their productive capacity through education and training. With respect to sector-level policies, too, the findings of this study suggests that since the majority of the working poor is in agriculture, followed by manufacturing, policies that support the ongoing structural transformation of employment, from agriculture to higher value-added services, are likely to enable more of the working poor to come out of poverty. The present analysis also found that own-account work was less associated with the probability of being poor than employment as salaried workers. This suggests that self-employment in productive work may be a route out of poverty for many working poor, and policies to enhance entrepreneurship, develop micro-enterprises, and enhance the quality of employment in micro-enterprises may contribute towards reducing poverty among the working poor. Certain regulatory and business registration procedures and requirements that discourage micro-enterprises from expanding and formalizing may also need to be reviewed.

Nevertheless, the findings of this study, as well as previous analyses on informal employment suggest that the working poor are unable to get the jobs that reward their endowments of education in the same way that the jobs of the working non-poor reward theirs. Hence there appear to be problems of labour market segmentation, with the working poor being unable to access better employment opportunities which similarly qualified working non-poor do. Segmentation may be partly caused by problems of connectivity, infrastructure access, as well as ethnic and language barriers, as in the case of plantation Tamils, and the present study presents some evidence to confirm this. Thus, there is a clear case for policy to improve connectivity, the availability of affordable housing and other infrastructure to reduce segmentation and integrate labour markets. Here again, improving connectivity and access to infrastructure can particularly benefit poor women, as differences in these endowments account for a sizeable proportion of the earnings gap between poor and non-poor working women.

Even so, the analysis suggests that even when these factors are controlled for, the working non-poor earn more, and that even within the categories of occupation and job status analysed in this study, the working non-poor access the better paying jobs. Thus, the role played by poor people's lower endowments of soft skills, social and information networks on the one hand, and the recruitment policies and practices of firms, on the other, in preventing the poor from accessing better paid jobs has yet to be subject to rigorous analysis. Moreover, empirical studies in other countries using experimental methods have suggested that attributes such as self-confidence and physical appearance including height, command a wage premium in the labour market. Clearly, most poor would be disadvantaged in relation to the non-poor in these factors which may also contribute to their earning less.

While conventional sample surveys such as those conducted by the Department of Census and Statistics provide extensive and rich data bases to investigate what we already know about in greater detail and, as methodologies evolve, with more rigor, they are not designed to, and cannot be expected to, generate the information needed to investigate these other factors that keep poor workers poor. Hence, these issues need to be investigated with a different toolkit of data collection and analytical methodologies, including innovative field experiments, experimental techniques, and qualitative methods.

# 1 Introduction

## 1.1 Objectives

This paper presents three perspectives of Sri Lanka's working poor. First, it provides an overview by estimating how many employed Sri Lankans are poor and by describing their characteristics by way of demographic, employment and human capital attributes. Secondly, it looks at which of these variables are most associated with the likelihood that an employed person will be poor. Thirdly, it looks at why poor working people earn too little to raise themselves above the poverty line. It uses the ILO's definition of working poverty which characterizes the working poor as those who both work and belong to poor households (Majid 2001; Berger and Harasty 2002 Kapsos 2004).

In 2006/7, 15.2 per cent of Sri Lankans were found to be poor (excluding the north) compared to 26.1 per cent in 1990/91 (excluding north and east) according to the national poverty line (Department of Census and Statistics 2009; World Bank 2007). Sector-wise poverty estimates based on the official poverty line show that between 1990 and 2007, urban poverty incidence dropped from 16.3 per cent to 6.7 per cent and rural poverty declined from 29.4 per cent to 15.7 per cent, but poverty on the estates increased from 20.5 per cent to 32.0 per cent (table 1.1.). Since earlier studies have shown that the vast majority of heads of poor household are employed (see for example, Gunewardena 2007; World Bank 2007), Sri Lanka's problem of poverty is clearly one of many working people not earning enough to get out of poverty. Thus, the economy needs to generate enough decent and productive employment opportunities if Sri Lanka is to meet the United Nations' Millennium Development Goal (MDG) of halving the share of people living on less than $1 per day by 2015 versus 1990 levels.

Table 1.1: Poverty in Sri Lanka (%) of total population, 1990-2007: National poverty line

| Poverty Indicators | 1990-91 | 1995-96 | 2001-02 | 2006-07 |
|---|---|---|---|---|
| Poverty incidence | 26.1 | 28.8 | 22.7 | 15.2 |
| Poverty gap | 0.056 | 0.066 | 0.051 | 0.031 |
| Poverty severity | 0.018 | 0.022 | 0.016 | 0.009 |
| | | | | |
| Poverty incidence by sector | | | | |
| Urban poverty | 16.3 | 14 | 7.9 | 6.7 |
| Rural poverty | 29.4 | 30.9 | 24.7 | 15.7 |
| Estate poverty | 20.5 | 38.4 | 30.0 | 32.0 |
| | | | | |
| Poverty incidence by region | | | | |
| Western | 21 | 18 | 11 | 8 |
| North Central | 24 | 24 | 21 | 14 |
| Central | 28 | 37 | 25 | 22 |
| Eastern | | | | 11 |
| Northwest | 25 | 29 | 27 | 15 |
| Southern | 30 | 33 | 28 | 14 |
| Sabaragamuwa | 31 | 41 | 34 | 27 |
| Uva | 33 | 49 | 37 | 24 |

*Source: World Bank (2007) for 1990 to 2002; Department of Census and Statistics (undated) for 2006-7. Data excludes Northern and Eastern Provinces for 1990-91 to 2001-02 and excludes Northern Province and Trincomalee District of Eastern Province for 2006-07.*

Sri Lanka has a rich tradition of research and analyses focusing on consumption poverty and its correlates (see de Silva 2008; Gunewardena 2007; Gunewardena et al. 2007; Lakshman 1997; World Bank 2005; World Bank 2007), but until very recently, there has been no attempt to directly address the issue of working poverty. For example, Gunewardena's (2007) provides a comprehensive profile of consumption poverty in Sri Lanka during the period 1985-2002 but touches on working poverty only tangentially in terms of employment, industry, and occupation of heads of households who are in poverty, rather than with all working members of the households. De Silva's (2008) analysis of the determinants of the probability of being poor is also related to the employment characteristics of household heads. The study found that being a household head working as a casual labourer increases the probability of being in poverty while working in a salaried occupation decreases it. The study's findings also suggest that chances of being in poverty are less if the household head is engaged in business rather than in agriculture.

In contrast, in a first attempt at investigating the nature of working poverty in Sri Lanka, Wickramasinghe (2009) provides descriptive statistics about the working poor using household income and expenditure data of 2006/07. Using the national poverty line constructed by the Department of Census and Statistics, Sri Lanka, to identify poor households, he estimates national working poverty incidence at 13.7 per cent and describes the working poor in terms of several individual characteristics such as age, sex, industry of employment, occupation, job status, and community characteristics such as access to facilities.

The present study attempts to extend this profile of the working poor by looking at how these as well as other attributes relating to household composition and employment are associated with the probability of being among the employed poor. This study also seeks to analyse the determinants of earnings among the working poor and non-poor, and account for differences in their earnings. Both the probability analysis and the analysis of the

determinants of earnings are likely to help policy-makers design, prioritize and target appropriate employment policies to reduce poverty.

This study is part of ILO's work on placing employment at the heart of economic and social policies as encapsulated in the Global Employment Agenda for Decent Work. It seeks to add to the international literature on country-specific information on the stock and characteristics of the working poor, especially the strand dealing with developing countries which is still sparse. The present study also aims to extend the analysis of informal employment in Sri Lanka undertaken by the author for the ILO in 2007 (see Gunatilaka 2008), which looked at the factors that determine informal employees' wages compared with the wages of formal employees. Due to the limitations of the Department of Census and Statistics' Quarterly Labour Force Survey (QLFS), that study was only able to look at the determinants of earnings of informal employees who account for only 37 per cent of total informal employment: the QLFS does not include any information on the earnings of own account workers who make up 45 per cent of total informal employment.

In contrast, the Department of Census and Statistics' Household Income and Expenditure Survey (HIES) collects information on the earnings of employees as well as of own account workers even though it does not have information that allows one to distinguish between formal and informal work according to the conceptual framework developed by the 15th International Conference of Labour Statisticians.[1] Therefore, in addition to constructing a profile of Sri Lanka's working poor, the present study intends to add to existing knowledge about the determinants of earnings of the most important group of informal workers, the self-employed poor, by using the HIES data which combines information on employment, income and consumption expenditure.

The paper is structured as follows. In the rest of this introduction we set out the rationale for this study by way of a survey of the recent literature on the working poor, followed by a discussion of the definitions of poverty and employment used in this study. Chapter 2 discusses the data used and provides an overview of the stock of working poor in Sri Lanka. It also sets out the analytical methodology, defines the variables used and presents their descriptive statistics. Chapters 3 and 4 comprise the analytical core of the study: Chapter 3 investigates the factors associated with the probability of being working poor and Chapter 4 examines the question of why poor working people are not able to earn enough to get out of poverty. Chapter 5 concludes and draws out the policy implications of the analysis.

## 1.2 Rationale

When Nomaan Majid (2001) first drew attention to the working poor in developing countries, it was to explain why unemployment rates are typically low compared to poverty rates in poor societies that lack effective social insurance systems. In poor developing countries without effective social floors, all those who survive below a given poverty line must by definition be working in order to support their families. Most of the unemployed in such economies choose not to undertake certain types of work because they can survive above the poverty line without having to take up just any type of work. However, the issue of working poverty has become relevant in developed countries too, as critical welfare reforms have given rise to unexpectedly high rates of poverty among working people and their dependents despite high economic growth and low levels of unemployment.

Majid's (2001) was the first attempt at estimating the size of the working poor population and working poverty rates in low and middle-income countries for the years 1986 and 1997. But since then there have been at least two attempts at estimating the stock of working poor world-wide as well as by region, and at calculating the rates of economic growth required to halve working poverty. Berger and Harasty (2002) produced estimates of working poverty for the years 1990 and 2000 and estimated the GDP growth required to reduce by half the

[1] *See the "Resolution concerning statistics of employment in the informal sector", adopted in 1993 by the 15th International Conference of Labour Statisticians, downloadable at: http://www.ilo.org/public/english/bureau/stat/res/index.htm.*

share of working poor in total employment between 2000 and 2010. Kapsos (2004) estimated the number of $1 and $2 working poor for the years 1980 through 2004, and provided working poverty forecasts for 2005 though 2015. The study found that in 2004, around 19 per cent of employed persons the world over (and 22 per cent of workers in developing countries) were living on less than $1 per day and nearly half of the world's workers (or 57 per cent of those in the developing world) were not earning enough to lift themselves and their families above the $2 per day poverty line.

But even though developing countries account for the overwhelming majority of the world's working poor, most of the published work is concentrated on working poverty in the U.S. following welfare policy changes in the late 1990s. In the U.S., the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 induced welfare recipients back to work after a two-year period of assistance, with an overall limit of 5 years of support in one's lifetime. Consequently, many individuals and families formerly known as the welfare poor have now become the working poor (Hong and Wernet 2007).

Among several studies of the American working poor, Hong and Wernet (2007) focus on the structural context of working poverty using panel data from the U.S. which covered the period April 1996 to March 2000. In building up a profile of the working poor, the authors concentrate on the impact of demographic, human capital, employment barriers and labour market positions on the chances of an individual falling into the category of the working poor. They found that employment barriers and labour market positions significantly contributed to the effects of human capital and demographic variables. Gleicher and Stevans (2005) used population survey data to present a comprehensive profile of US workers according to the likelihood of being a member of the working poor. They found that in addition to the effects of education, discriminatory signals such as citizenship, ethnicity, gender and race were important determinants. Joassart-Marcelli's (2004) study of the working poor of southern California found families with young children and fewer adult workers dominating the working poor. Most of them were Latino, worked in service or labourer occupations, had lower educational attainment and very low unionization rates and earned hourly wages close to the legal minimum. DeFina's (2007) study of trends in working poverty covering the years 1991 to 2002 in the U.S. found the size of the poor working population sensitive to the poverty index used. Rodgers and Robson (2008) applied several definitions of working poverty to Australian longitudinal data to investigate whether working poverty is the new face of poverty in post-industrial Australia. Meanwhile, Strengmann-Kuhn (2004) analysed working poverty in OECD countries using four definitions and found that roughly nine per cent of working people and 13 per cent of people in working households, were poor in the mid 1990s.

In contrast, there has been almost no research on the working poor in developing and transitional countries. As far as we are aware, only Bernabe and Kolev (2005) explicitly address the problem of the working poor in their investigation of the multiple aspects of vulnerability in the Kyrgyz labour market in 1997-98. Alisjahbana and Manning (2006) focus on labour market issues relevant to poverty alleviation in Indonesia but there is no explicit reference to the working poor. By and large, the vast literature on poverty and employment in developing countries approaches the issue from the perspective of poverty rather than employment. As previously mentioned, analyses of poverty in Sri Lanka, too, typically look at poverty rates by industry, education and occupation of household head, or the contribution to total poverty of households with heads employed in different categories of economic activities and sectors. There has been relatively little work done on combining the two variables - poverty and employment - and examining the extent to which employed people are in poverty and why they earn too little to come out of it.

The present study aims to contribute to the international and Sri Lankan literature on working poverty by building a profile of those who are employed and are at the same time poor. Since the relevant developing country literature is sparse, it will draw on the analytical techniques developed in the working poverty literature on the US and cited above, where appropriate. However, this study will use poverty lines more appropriate to the developing country context to define the working poor, and we turn to this issue in the next section.

## 1.3 Defining the Working Poor

The academic literature on the working poor uses many definitions of working poverty, with some studies using several for comparison and analytical purposes (for example, see Bernabe and Kolev 2005; DeFina 2007; Rodgers and Robson 2008; Strengmann-Kuhn 2004). In a study of working poverty in OECD countries, Strengmann-Kuhn (2004) used the following four definitions which reveal the complexity of the phenomenon. The first two definitions used refer to working people who are poor: (a) people employed for at least one hour in the week before the interview and who live in poor households; and, (b) people employed full-time in the week before the interview and who live in poor households. The two other definitions refer to people who live in poor, working households: (c) people living in poor households that contain one or more members who were employed for at least one hour in the week before the interview, and (d) people living in poor households that contain one or more members who were employed full time in the week before the interview (ibid.).

This study uses the definition of the working poor used by Majid (2001), Berger and Harasty (2002) and Kapsos (2004) who define the working poor as the number of individuals who are both employed and poor. Whether the individual is in poverty is determined by comparing the level of per capita household consumption, with the appropriate poverty line. However, while the studies cited defined employed people as those working for at least one hour in the week before the interview, we were not able to use as precise a definition of employment. This is because while the Household Income and Expenditure Survey is the only source of survey data for income and expenditure, the definition of employment it uses is not time bound and determines the employment status of the survey respondents only according to the person's income source as reported by the respondent. In contrast, the Sri Lanka Labour Force Survey (LFS) determines employment status only after ascertaining the involvement of the individual in any form of economic activity through a series of tactical questions, and after verifying the duration of such involvement (Wickramasinghe 2009). As a result, the HIES figures for employment are lower than the figures obtained from the LFS on which the official employment rate is based, and this is likely to underestimate working poverty figures that use this definition.

In Table 1.2 we compare employment and unemployment rates of the two surveys by sex and sector. Data from the Eastern Province has been excluded from the estimation based on HIES in the table to enable comparison with the LFS which was not administered in the Eastern Province.[2]

### Table 1.2: Employment and unemployment rates by sex and sector, HIES 2006/07 and LFS 2006

| | Employment rate | | Unemployment rate | |
|---|---|---|---|---|
| | **Males** | **Females** | **Males** | **Females** |
| HIES | | | | |
| Urban sector | 89.6 | 79.4 | 10.4 | 20.6 |
| Rural sector | 91.3 | 80.8 | 8.7 | 19.2 |
| Estates sector | 89.0 | 82.4 | 11.0 | 17.7 |
| Total by sex | 90.0 | 80.8 | 9.0 | 19.3 |
| Total | 87.5 | | 12.5 | |
| LFS | | | | |
| Urban sector | 95.8 | 92.6 | 4.2 | 7.4 |
| Rural sector | 95.6 | 90.1 | 4.4 | 9.9 |
| Estates sector | 95.0 | 94.5 | 5.0 | 5.5 |
| Total by sex | 95.6 | 90.7 | 4.4 | 9.4 |
| Total | 93.8 | | 6.2 | |

*Note: Data excludes Northern and Eastern Provinces*

[2] *Other HIES data presented in this paper does not exclude the Eastern Province. For further details see Chapter 2.*

The analysis uses two kinds of poverty lines to determine which households are in poverty. First, since this study aims to inform Sri Lankan policy makers and add meaningfully to the Sri Lankan poverty literature, it uses the national poverty line developed by the Department of Census and Statistics (see Department of Census and Statistics 2004) to determine the stock of working poor. This poverty line uses Ravallion's (1994) cost of basic needs (CBN) method and has been used in analyses by the Department of Census and Statistics itself (2009), by the World Bank in its Sri Lanka Poverty Assessment (2007) and in the analyses by Gunewardena (2007) and Datt and Gunewardena (1997). The present study's working poverty figures and its analytical work on the determinants of working poverty and on the reasons why poor working people are unable to earn enough to get out of poverty, are all based on this definition.

The national poverty line used in this study was constructed by the Department of Census and Statistics using household income and expenditure data from the 2002 survey of the same name. The procedure first derived a food poverty line using the cost of a food bundle that satisfies the food-energy requirement. The nutritional anchor for the poverty line was set at 2030 kcal per person per day (Department of Census and Statistics 2004). The monthly cost of this volume of calories was derived by first calculating the cost of a calorie from the aggregate food expenditures and calorie intakes of households in the second to fourth deciles of the population ranked by real per capital total consumption expenditure, and then adjusting this figure by the number of calories required per person per month. The procedure then derived lower-bound and upper-bound estimates of the poverty line. The lower-bound estimate was defined as the food poverty line plus the average non-food consumption of those who can afford to meet their food energy needs. The upper-bound estimate was defined as the poverty line at which a person typically attains their food requirement. The national poverty line was then calculated as the simple arithmetic mean of the two estimates.

For the base year 2002, the official poverty line was estimated as Rs. 1423 (Department of Census and Statistics 2004). The Department of Census and Statistics also derived separate poverty lines for the districts using spatial price indices calculated by the Laspeyres Method and based on unit prices from a sub-sample of the survey data. The national poverty line was updated in 2006/07 using the Colombo Consumer's Price Index and the district based poverty lines also adjusted accordingly (Department of Census and Statistics 2009). The national poverty line was estimated as Rs. 2233 in 2006/07.

To enable international comparison this study also estimates the stock of poor and working poor in terms of different population groups at national level according to the international $1.25 and $2 per household member per day poverty lines adjusted to take into account local prices (purchasing power parity - PPP). These are the poverty lines used by the World Bank in its cross-country comparisons. To compile the $1.25 and $2 per household member per day poverty lines at national level for Sri Lanka, this study used the PPP conversion factor provided by the World Bank's International Comparison Programme,[3] and the New Colombo Consumer's Price Index (2002=100) reported in Annual Reports of the Central Bank of Sri Lanka.

In the next chapter we discuss the data used for the analysis, present an overview of the working poor, set out the methodology and define the variables used in the analysis.

[3] *See Tables of Results of the World Bank's International Comparison Programme (icp-final-tables.pdf) at http://siteresources.worldbank.org/ICPINT.*

# 2

# Data, Overview, Methodology and Variables

## 2.1 DATA

Data related to income, consumption expenditure, demographic and other characteristics of individuals and households were drawn from the Household Income and Expenditure Survey (HIES) of 2006/7 conducted by the Department of Census and Statistics, Sri Lanka. The data includes the administrative districts of Ampara and Batticaloa in Eastern Province, but excludes Trincomalee and all five administrative districts of the Northern Province as the conflict situation prevailing in these areas at the time precluded data collection.

Since the study defines the working poor as those as those who both work and belong to poor households, the individual is the principal unit of analysis. But poverty is determined at the level of the household and the equivalent scale that the study uses to determine whether a household is poor is per capita consumption. This is a special case of the general definition of equivalent consumption:

equivalent consumption=total household consumption/$n^s$

where n is household size and s is equal to one. This definition assumes that each household member receives an equal allocation of household consumption, and that household members have identical consumption needs and that there are no economies of scale living together. Although the reality often is that children usually require less of most things than adults and that certain public goods such as televisions can be used by all family members at no additional cost, the theoretical and methodological problems of determining equivalence scales remain unresolved and hence setting equivalence scales remains arbitrary. Therefore, this study follows earlier analyses by the Department of Census and Statistics (2009), the World Bank (2007), Gunewardena (2007) and Dutt and Gunewardena (1997), by using per capita consumption as the equivalent scale in order to identify whether the worker's household is poor.

The analysis takes into account only individuals who are members of households with positive expenditure. A few households that a box plot analysis of consumption data revealed as outliers were excluded. Household expenditure data were then adjusted for spatial differences in the cost of living by using the district-wise Laspeyres price index for 2006/07 developed by the Department of Census and Statistics based on the same survey data set. The per capita real consumption of each household was then compared with the official poverty line developed by the Department of Census and Statistics to determine whether the household is poor.

However, for purposes of international comparison, this study also reports the stock of the working poor by various subgroups, according to the international $1.25 and $2 per household member per day poverty lines adjusted to take into account local prices (purchasing power parity - PPP). To compile the $1.25 and $2 per household member per day poverty lines at national level for Sri Lanka, the two poverty lines were adjusted by the PPP conversion factor provided by the World Bank's International Comparison Programme. But since the

conversion factor was for the year 2005,[4] we used the median of the New Colombo Consumer's Price Index (2002=100) for the twelve months of the survey year to further adjust the two poverty lines to reflect prices prevailing in our survey year 2006/07 rather than 2005. At the same time, total household consumption was adjusted by the PPP conversion factor as well as by the Department of Census and Statistics' Laspeyres spatial price index to derive per capita real household consumption at purchasing power parity. This was to enable comparison with the PPP-adjusted, $1.25 and $2 per household member per day poverty lines. When adjusted for PPP in this way, the $1.25 and $2 poverty lines translated to Rs. 51.83 and Rs. 82.92 per household member per day respectively.

Major population surveys have many sampling units which have different probabilities of being selected. The sampling units may also have different means. If this is the case, then an unweighted sample mean is an inefficient estimator of the population mean. In order to ensure the efficiency of the estimators and the representativeness of the findings, the data was adjusted using the inflation factors provided by the Department of Census and Statistics. Thus, the survey commands of the statistical package, Stata, were used to generate descriptive statistics as well as regression results.

## 2.2 Overview of the Working Poor

In this section we present an overview of the working poor across sector and region, sex, industrial sector, job status, occupation and education. While summary tables are presented in this section, the numbers on which these shares are based are presented in the statistical appendix. Given that the definition of employment used by HIES is not time bound, employment figures are likely underestimated than if the LFS definition were used. Consequently, the working poverty figures presented below and in the statistical appendix likely underestimate the actual number of people who are employed and are poor and working poverty rates are probably higher than appears in this study.

We begin with a snapshot view of the poverty and working poverty situation in Table 2.1. It can be seen that while 15.3 per cent of a population of 18.4 million Sri Lankans are poor according to the national poverty line, the poverty incidence among an employed population of 6.7 million is 13.7 per cent. Thus, roughly a million employed Sri Lankans are poor. At the $1.25 poverty line, 7.4 per cent of the total population, and 6.4 per cent of the working population, is poor. But these figures jump to 30.3 per cent and 28.0 per cent at the higher poverty line of $2 a day, suggesting a high degree of concentration of those vulnerable to falling into poverty just above the national and $1.25 poverty lines. The urban sector has the lowest concentration of both the poor and the working poor, and the estates the highest concentration. Poverty and working poverty rates are significantly lower in the relatively urbanized and industrialized Western Province and highest in Uva, Sabaragamuwa and Central Provinces.

Table 2.2 presents the distribution of the poor and non-poor population by sex and employment status according to the national, $1.25 and $2 poverty lines. There is very little difference in the shares of the subgroups by poverty line. Women account for roughly a third of both the working poor and working non-poor. But among the poor unemployed, they account for roughly a half, and slightly more among the non-poor unemployed. They also account for roughly two thirds of the economically inactive poor and non-poor population, reflecting the relatively low rates of female labour participation that is a notable feature of Sri Lanka's labour market. However, we need to keep in mind the limitations of HIES in defining employment and unemployment as HIES' estimates of unemployment tend to be biased upwards compared to the labour force survey figures as explained in Chapter1.

[4] *See Tables of Results of the World Bank's International Comparison Programme (icp-final-tables.pdf) at http://siteresources.worldbank.org/ICPINT.*

Table 2.3 presents the distribution of poor and non-poor workers by industrial sector of employment. This and the tables to follow in this section relate only to poverty figures derived from the national poverty line. The appendix table sets out the figures related to the $1.25 and $2 poverty lines.

While roughly a third (27.6 per cent) of all employed (slightly more women than men) are employed in agriculture, the sector accounts for 42.5 per cent of all working poor and 53.8 per cent of poor working females. While agriculture is the main repository of working poverty, manufacturing, which accounts for 17.8 per cent of all employed, contributes to 15.3 per cent of the working poor. Here again, working poverty among women in manufacturing is much higher than among men; nearly a quarter of poor working women are in manufacturing and only 10.5 per cent of men. On the other hand, the health and social work sector accounts for 17.2 per cent of working poor men, versus 10.4 per cent of working poor women. Among the working non-poor, agriculture also accounts for the largest share - a quarter, followed by manufacturing (18.2 per cent), financial intermediation (14.0 per cent) and wholesale and retail trade (13.8 per cent). On the whole, the services sector appears less associated with working poverty than the agriculture and manufacturing sectors: the proportions of the working non-poor in the services sectors, with the exception of health and social work, are higher than the shares of the working poor in agriculture and manufacturing. This is consistent with levels of productivity across the three sectors because over the past decade, Sri Lanka has been moving toward higher value-added, service-oriented activities which tend to include better remunerated occupations (Ministry of Labour Relations and Manpower et al. 2009).

The distribution of the working poor and working non-poor population over employment status categories largely follows the distribution of the entire working population over these status groups (Table 2.4). Own account workers and employers tend to be less represented among the poor, than among the working population at large, whereas the concentration of the working poor among wage and salaried workers is higher than the share of this category of workers in the working population as a whole. In terms of occupation, lower skill categories appear to be the largest repositories of working poverty: while production, elementary and other service workers account for the bulk of the employed population, the shares of poor in production and other services are much higher than their shares in the working population as a whole. In particular, women in production work account for 44.8 per cent of all poor working women, whereas this category accounts only for 28.2 per cent of females in the employed population. Meanwhile, lower educational attainment is also more closely associated with working poverty, as Table 2.5 shows. The bulk of the working poor, a greater proportion of women than men, have only primary education or less.

In the next section we describe the methodology we apply to relate these and other characteristics with the likelihood of an employed person being poor, and with his or her income earning capacity.

Table 2.1: Poverty and working poverty incidence in Sri Lanka 2006/07, by sector and province - at the national, $1.25 and $2.00 poverty lines

| | National Poverty | $1.25 Poverty | $2.00 Poverty |
|---|---|---|---|
| Sri Lanka | 15.25 | 7.35 | 30.27 |
| Urban sector | 6.73 | 2.58 | 15.48 |
| Rural sector | 15.71 | 7.77 | 31.04 |
| Estates sector | 32.03 | 14.32 | 59.79 |
| Western | 8.27 | 3.61 | 18.12 |
| Central | 22.29 | 11.33 | 41.26 |
| Southern | 13.76 | 6.47 | 29.35 |
| North Western | 14.63 | 6.44 | 30.16 |
| Eastern | 10.80 | 5.26 | 26.46 |
| North Central | 14.15 | 6.83 | 26.07 |
| Uva | 27.02 | 14.75 | 49.22 |
| Sabaragamuwa | 24.19 | 11.73 | 44.73 |
| Total (number) | 2,806,374 | 1,351,857 | 5,569,645 |
| | National Working Poverty | $1.25 Working Poverty | $2.00 Working Poverty |
| Sri Lanka | 13.68 | 6.35 | 28.02 |
| Urban sector | 5.64 | 2.40 | 13.36 |
| Rural sector | 13.95 | 6.61 | 28.41 |
| Estates sector | 27.77 | 11.62 | 55.05 |
| Western | 7.43 | 3.11 | 16.33 |
| Central | 20.96 | 10.02 | 39.77 |
| Southern | 12.19 | 5.68 | 27.12 |
| North Western | 12.45 | 5.58 | 27.21 |
| Eastern | 7.75 | 3.51 | 22.88 |
| North Central | 13.12 | 6.10 | 24.29 |
| Uva | 24.13 | 12.52 | 46.07 |
| Sabaragamuwa | 21.43 | 9.95 | 41.32 |
| Total (number) | 913,247 | 423,940 | 1,870,404 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 2.2: Distribution of poor and non-poor population by employment status and sex 2006/07 (%) National poverty line

| | Poor | | | | | | Non-poor | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Poverty line** | **Employed** | | **Unemployed** | | **Economically inactive** | | **Employed** | | **Unemployed** | | **Economically inactive** | |
| | **M** | **F** | **M** | **F** | **M** | **F** | **M** | **F** | **M** | **F** | **M** | **F** |
| Official | 68.51 | 31.49 | 49.86 | 50.14 | 30.55 | 69.45 | 69.13 | 30.87 | 46.28 | 53.72 | 28.29 | 71.71 |
| $1.25 | 67.87 | 32.13 | 50.06 | 49.94 | 31.93 | 68.07 | 69.12 | 30.88 | 46.60 | 53.40 | 28.38 | 71.62 |
| $2.00 | 68.91 | 31.09 | 49.62 | 50.38 | 29.75 | 70.25 | 69.10 | 30.90 | 45.47 | 54.53 | 28.15 | 71.85 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 2.3: Distribution of poor and non-poor employed population by industrial sector of employment (%) National poverty line 2006/07

| | All employed | | | Working poor | | | Working non-poor | | |
|---|---|---|---|---|---|---|---|---|---|
| | All | Males | Females | All | Males | Females | All | Males | Females |
| Agriculture | 27.55 | 25.11 | 33.00 | 42.47 | 37.28 | 53.79 | 25.19 | 23.20 | 29.64 |
| Mining and quarrying | 1.26 | 1.60 | 0.51 | 2.01 | 2.38 | 1.19 | 1.14 | 1.47 | 0.40 |
| Manufacturing | 17.79 | 14.31 | 25.57 | 15.25 | 10.53 | 25.52 | 18.20 | 14.90 | 25.57 |
| Electricity | 0.12 | 0.15 | 0.05 | 0.00 | 0.00 | 0.00 | 0.14 | 0.17 | 0.06 |
| Construction | 6.82 | 9.74 | 0.32 | 8.99 | 13.02 | 0.23 | 6.48 | 9.22 | 0.34 |
| Wholesale and retail trade | 13.00 | 14.29 | 10.11 | 7.73 | 8.83 | 5.33 | 13.83 | 15.15 | 10.88 |
| Hotels and restaurants | 1.79 | 2.00 | 1.33 | 1.11 | 1.44 | 0.39 | 1.90 | 2.09 | 1.48 |
| Transport, storage and communications | 6.20 | 8.52 | 1.03 | 3.09 | 4.27 | 0.50 | 6.70 | 9.19 | 1.11 |
| Financial intermediation | 12.38 | 11.81 | 13.66 | 2.31 | 2.70 | 1.48 | 13.98 | 13.24 | 15.62 |
| Public administration | 2.61 | 1.33 | 5.48 | 0.45 | 0.33 | 0.71 | 2.96 | 1.49 | 6.25 |
| Education | 1.08 | 0.72 | 1.87 | 0.31 | 0.30 | 0.33 | 1.20 | 0.79 | 2.12 |
| Health and social work | 8.03 | 8.57 | 6.84 | 15.08 | 17.24 | 10.37 | 6.92 | 7.21 | 6.27 |
| Other services | 0.03 | 0.02 | 0.04 | 0.00 | 0.00 | 0.01 | 0.03 | 0.02 | 0.05 |
| Not classified | 1.33 | 1.83 | 0.20 | 1.19 | 1.67 | 0.16 | 1.35 | 1.86 | 0.21 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 2.4: Distribution of poor and non-poor employed population by status of employment and occupation (%) National poverty line 2006/07

| | All employed | | | Working poor | | | Working non-poor | | |
|---|---|---|---|---|---|---|---|---|---|
| | **All** | **Males** | **Females** | **All** | **Males** | **Females** | **All** | **Males** | **Females** |
| *Status* | | | | | | | | | |
| Wage and salaried workers | 63.28 | 62.97 | 63.96 | 69.33 | 70.21 | 67.40 | 62.32 | 61.84 | 63.41 |
| Employers | 2.03 | 2.56 | 0.85 | 0.67 | 0.88 | 0.20 | 2.25 | 2.83 | 0.96 |
| Own account workers | 27.57 | 31.00 | 19.92 | 21.93 | 25.46 | 14.26 | 28.46 | 31.87 | 20.84 |
| Unpaid family workers | 7.12 | 3.46 | 15.27 | 8.07 | 3.44 | 18.15 | 6.96 | 3.47 | 14.80 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| | | | | | | | | | |
| *Occupation* | | | | | | | | | |
| Managerial | 4.83 | 5.31 | 3.78 | 1.17 | 1.26 | 0.98 | 5.41 | 5.95 | 4.23 |
| Professional | 5.94 | 3.36 | 11.65 | 0.73 | 0.68 | 0.85 | 6.76 | 3.78 | 13.40 |
| Technical | 12.00 | 12.72 | 10.40 | 3.67 | 4.05 | 2.84 | 13.33 | 14.10 | 11.62 |
| Service | 3.80 | 2.88 | 5.82 | 0.59 | 0.70 | 0.36 | 4.31 | 3.23 | 6.71 |
| Agricultural | 6.26 | 7.08 | 4.44 | 4.13 | 4.85 | 2.56 | 6.60 | 7.44 | 4.75 |
| Production | 22.84 | 20.44 | 28.15 | 32.15 | 26.36 | 44.75 | 21.35 | 19.51 | 25.46 |
| Elementary | 23.21 | 24.96 | 19.32 | 20.16 | 20.07 | 20.36 | 23.69 | 25.74 | 19.15 |
| Other services | 21.12 | 23.23 | 16.45 | 37.39 | 42.04 | 27.29 | 18.54 | 20.26 | 14.69 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 2.5: Distribution of poor and non-poor employed population aged 15 years and above, by education (%) National poverty line 2006/07

| | All employed | | | Working poor | | | Working non-poor | | |
|---|---|---|---|---|---|---|---|---|---|
| | All | Males | Females | All | Males | Females | All | Males | Females |
| Primary or less | 26.77 | 25.98 | 28.53 | 48.66 | 46.58 | 53.19 | 23.30 | 22.75 | 24.54 |
| Junior secondary | 14.10 | 15.83 | 10.26 | 18.54 | 19.72 | 15.98 | 13.40 | 15.22 | 9.33 |
| Senior secondary | 26.88 | 28.72 | 22.79 | 24.88 | 25.61 | 23.30 | 27.20 | 29.21 | 22.70 |
| GCE O Levels | 16.60 | 16.98 | 15.74 | 6.12 | 6.50 | 5.30 | 18.26 | 18.63 | 17.43 |
| GCE A Levels | 12.40 | 10.00 | 17.77 | 1.73 | 1.52 | 2.19 | 14.10 | 11.33 | 20.29 |
| Graduate | 3.24 | 2.48 | 4.92 | 0.06 | 0.07 | 0.04 | 3.74 | 2.86 | 5.71 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

## 2.3 Methodology and Variables

The key objectives of the study's analysis are to investigate: (a) the factors that are associated with the likelihood that an employed person will be poor; (b) the reasons why poor working people earn too little to rise above the poverty line; and (c) the reasons why non-poor working people earn more than the working poor. More specifically, (c) looks at how differences in demographic and other productive characteristics such as education and occupation between the working poor and non-poor, and how differences in the returns to these group characteristics influence the outcome that many employed people are unable to earn as much as the non-poor in order to come out of poverty.

With respect to (a), we follow de Silva (2008) and Alisjahbana and Manning (2006) and deploy a logit model to estimate the probability of being employed and poor, from a vector of independent variables, *X*. The binary dependent outcome *WP* takes the value one if the individual is both employed and a member of a poor household, and zero if he or she is employed but does not belong to a poor household.

The model that we fit is,

$$\Pr(wp=1|X) = F(\alpha + \beta X), \qquad (1)$$

where $F(z) = e^z / (1+e^z)$ is the cumulative logistic distribution and the parameters $\beta$ are estimated by maximum likelihood. It should be noted that the model does not address the issue of causality to distinguish whether working poverty is a cause or a consequence of various labour market characteristics. Instead it only seeks to identify the variables associated with working poverty status.

To analyse why poor working people earn too little to escape poverty, we look at the determinants of the earnings of the poor and non-poor, and then investigate the factors enabling non-poor people to earn more than poor people. To do this we deploy an earnings function based on human capital theory, and on the relationships between labour earnings and demographic, spatial and infrastructure characteristics that have emerged from the theoretical and empirical literature, as follows:

$$Y = \alpha + \beta X) + \varepsilon \qquad (2)$$

In this equation, Y denotes log of real monthly earnings and X is a vector of exogenous productive characteristics or endowments such as education, job status and spatial characteristics that determine earnings, and $\varepsilon$ is a stochastic error term. In order to account for spatial price differences, nominal monthly earnings were adjusted by the Laspeyres district price index calculated by the Department of Census and Statistics. Separate equations are estimated for the mutually exclusive sub-samples of the working poor and the working non-poor.

Since the HIES does not collect information about the number of days worked, we were unable to construct an hourly earnings variable as our dependent variable Y which would have been far more useful. A major shortcoming of using log of real monthly earnings rather than log of hourly earnings as the dependent variable is that we are not able to discern whether the monthly earnings of individuals reflect fewer hours worked or lower returns to productive characteristics. This is likely to be a critical factor that may affect women's earnings as women are likely to work fewer hours on average.

To investigate why poor employed people do not earn as much as the non-poor, we look at the factors that contribute to the earnings gap between the working poor and the working non-poor. To do this we apply the well-known Oaxaca-Blinder decomposition methodology to our data which is based on the construction of counterfactuals. This can be understood more easily if conceived of in the following manner.

Consider two employed persons, one poor, the other not poor. Assume that both workers would earn the same returns if their productive characteristics were identical. But in actual fact, assume that they have different endowments of productive characteristics such as education and occupation. Then the actual difference in their earnings would quantify the difference that has resulted from differences in their individual endowments of productive characteristics. This difference would constitute the 'explained' part of the earnings differential, that is, that part of the earnings gap due to their different endowments of productive assets.

Now let us consider two individuals, a poor person and a non-poor person, with identical observable productive endowments but earning different incomes. Then the difference in their earnings would be the different returns that their otherwise identical productive assets fetched in the market as well as differences in productive assets not included in the model plus the returns to these unobserved characteristics. This difference would constitute the part of the differential that would remain 'unexplained' by the productive characteristics or endowments accounted for in the model. For example, if both had the same level of education, then the non-poor person may be earning more because she has certain soft skills that are not captured by variables such as education and occupation, or because she has the social networks to get employment in a firm owned by her relatives who will pay her more than they would pay others in the same firm with the same productive characteristics.

Thus, the decomposition procedure divides the earnings differential between two groups into a part 'explained' by differences in observable productivity-related characteristics between the poor and the non-poor, and a residual part that cannot be accounted for by such differences. This 'unexplained' part is often used as a measure of discrimination in the decomposition literature, but in cases such as the present where we look at the earnings gap between the working poor and the working non-poor, the unexplained part need not be the result of discrimination. This component can also subsume the effects of group differences in unobserved explanatory variables such as the soft skills and social capital mentioned above. A part of this difference can also be interpreted as differences in the returns or prices to the poor and non-poor who may be operating in segmented labour markets - perhaps markets that are segmented on account of social class which is hard to capture - but who nevertheless share the same endowments of productive characteristics. While a more formal exposition of the decomposition procedure can be found in the Technical Appendix, in the next section we define the variables used to denote the productive and other characteristics of workers.

## Definition of variables

The analysis of the determinants of the probability of being working poor investigates the extent to which a total of six groups of explanatory variables are associated with the likelihood of being employed and poor. The six groups of variables relate to income, demographic and health characteristics, education, job characteristics, household characteristics and community characteristics. The analysis of the determinants of the earnings of poor and non-poor employed persons and their earnings gap deploys four of these groups of explanatory variables. They are, demographic and health variables, education variables, job-related variables and community variables. In what follows, we describe the groups of variables that are common to the two analyses first, and then go on to define the additional two groups of variables that are used only in the probability analysis of being working poor. Table 2.6 presents descriptive statistics of the explanatory variables in terms of means or proportions and standard errors. Table 2.7 presents mean real monthly earnings by sex and population group for the working poor and the working non-poor. The statistics have been estimated by taking into account the survey design of the data set. It should be noted that the descriptive statistics in the tables are for the sub samples of working poor and the working non-poor actually used for the econometric analysis. These numbers are slightly lower than the statistics on which working poverty figures of Table 2.1 and the statistical appendix are based, because the econometric analysis only used the sub sample of individuals for whom there was information on all the explanatory variables included in the analysis.

There are nine demographic and health variables. Age and Age squared look at the impact of age on the outcomes of interest. The variable Age squared explores whether there is a non-linear relationship between age and the probability of being working poor, and log of real monthly earnings. Male captures the impact of gender and it can be seen from Table 2.6 that males account for two thirds of the working poor and working non-poor, in line with the far lower labour force participation rates of females. Four ethnicity related dummies look at the impact of ethnicity on the outcomes of interest relative to the impact of the reference ethnic category, Sinhalese. As the table shows, there are relatively more Sinhalese in the non poor working category than in the poor working category, whereas Indian Tamils and Sri Lankan Tamils tend to be slightly more concentrated in the working poor category. Married captures the impact of the individual's civil status and Days absent from work due to sickness last month captures the impact of health status on earnings and the probability of being working poor.

The impact of education attainment on the probability of being working poor and on earnings, is captured by four levels of education as follows: Secondary education denotes those who have completed between 6 and 10 years of schooling; GCE O'Level denotes achievement of the General Certificate of Examination at Ordinary Level, which indicates success at the 10th year qualifying examination; GCE A'Level is the General Certificate of Examination at Advanced Level denoting success at the 12th year qualifying examination; Graduate denotes attainment of tertiary education and more. Primary education is the reference category and denotes those with primary education or less who make up the bulk of the working poor. They are closely followed by those with secondary education (see Table 2.6). The majority of working non-poor people is educated up to secondary level.

There are three types of job-related dummy variables. There are seven occupation variables whose reference category is production workers. The majority of the working poor are concentrated in the agricultural and elementary occupation categories. Two dummies capture the broad industrial sector of employment, Manufacturing sector and Services sector. The reference category is Agricultural sector and There are four categories of employment status, Public employee, Private employee, Employer and Unpaid family worker whose reference category is Own Account Worker. In the analysis of the determinants of earnings, only the first three employment status dummies are included as unpaid family workers are excluded by the definition of the model.

## Table 2.6: Means or proportions of explanatory variables

| | Working poor | | Working non-poor | |
|---|---|---|---|---|
| | **Mean/Proportion** | **Standard Error** | **Mean/Proportion** | **Standard Error** |
| *Income variables* | | | | |
| Log of real monthly earnings | 7.1982 | 0.0582 | 7.9236 | 0.0236 |
| Log of real monthly remittances from abroad | 0.0424 | 0.0108 | 0.1509 | 0.0085 |
| Log of real monthly remittances from Sri Lanka | 0.1005 | 0.0160 | 0.1551 | 0.0082 |
| *Demographic and health variables* | | | | |
| Age | 39.5017 | 0.2523 | 40.6650 | 0.1019 |
| Age squared | 1729.4420 | 21.3817 | 1825.9550 | 8.7926 |
| Male | 0.6845 | 0.0090 | 0.6908 | 0.0036 |
| Sinhalese | 0.7647 | 0.0077 | 0.8371 | 0.0027 |
| Sri Lankan Tamil | 0.0739 | 0.0044 | 0.0552 | 0.0016 |
| Indian Tamil | 0.1059 | 0.0055 | 0.0437 | 0.0014 |
| Moor | 0.0545 | 0.0043 | 0.0612 | 0.0018 |
| Other | 0.0011 | 0.0005 | 0.0028 | 0.0004 |
| Married | 0.7319 | 0.0087 | 0.7317 | 0.0035 |

| | Working poor | | Working non-poor | |
|---|---|---|---|---|
| | Mean/Proportion | Standard Error | Mean/Proportion | Standard Error |
| Days absent from work due to sickness last month | 0.3738 | 0.0470 | 0.3031 | 0.0173 |
| *Education Variables-* | | | | |
| Primary education or less | 0.4868 | 0.0097 | 0.2329 | 0.0032 |
| Secondary education | 0.4336 | 0.0096 | 0.4061 | 0.0038 |
| GCE O' Level Qualification | 0.0612 | 0.0048 | 0.1822 | 0.0031 |
| GCE A' Level Qualification | 0.0173 | 0.0026 | 0.1408 | 0.0027 |
| Graduate | 0.0006 | 0.0005 | 0.0375 | 0.0016 |
| *Job-related variables* | | | | |
| Managerial | 0.0117 | 0.0022 | 0.0535 | 0.0018 |
| Professional | 0.0074 | 0.0017 | 0.0673 | 0.0020 |
| Technical | 0.0367 | 0.0036 | 0.1323 | 0.0027 |
| Clerical | 0.0059 | 0.0015 | 0.0430 | 0.0016 |
| Service | 0.0414 | 0.0039 | 0.0660 | 0.0019 |
| Agricultural | 0.3217 | 0.0090 | 0.2123 | 0.0031 |
| Production | 0.2021 | 0.0079 | 0.2352 | 0.0033 |
| Elementary | 0.3724 | 0.0094 | 0.1851 | 0.0030 |
| Agriculture sector | 0.4564 | 0.0096 | 0.2757 | 0.0034 |
| Manufacturing sector | 0.2430 | 0.0084 | 0.2483 | 0.0034 |
| Services sector | 0.3005 | 0.0090 | 0.4758 | 0.0039 |
| Public employee | 0.0397 | 0.0036 | 0.1643 | 0.0029 |
| Private employee | 0.6541 | 0.0092 | 0.4610 | 0.0039 |
| Employer | 0.0067 | 0.0016 | 0.0220 | 0.0011 |
| Own account worker | 0.2223 | 0.0081 | 0.2895 | 0.0035 |
| Unpaid family worker | 0.0771 | 0.0053 | 0.0632 | 0.0019 |
| *Household variables* | | | | |
| Employed share | 0.4205 | 0.0038 | 0.4960 | 0.0018 |
| *Community variables* | | | | |
| Residence in urban area | 0.0562 | 0.0042 | 0.1483 | 0.0027 |
| Residence in rural area | 0.8177 | 0.0066 | 0.7997 | 0.0029 |
| Residence in plantation area | 0.1262 | 0.0054 | 0.0520 | 0.0014 |
| Time taken to go to Divisional Secretariat (minutes) | 48.3764 | 0.6142 | 38.4312 | 0.2023 |
| Access to power line | 0.8273 | 0.0072 | 0.9230 | 0.0021 |
| Access to telephone line | 0.5332 | 0.0096 | 0.7250 | 0.0035 |
| Total employed population | 910,506 | | 5,700,000 | |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

There are nine spatial or location-related community variables. Residence in rural area and Residence in plantations attempt to capture the association of sector with the dependent variables of interest, in relation to the omitted category, Residence in urban area. Urban living appears to be associated with being non-poor rather than poor. Observe that 15 per cent of the working non-poor are in the urban sector and only 6 per cent of the working poor. Transport connectivity is captured by Time taken to go to Divisional Secretariat, the Divisional Secretariat being the level of decentralized administration that is next to the district. For example, it is the Divisional Secretariat that poor households would have to approach in order to apply for consumption support from the Samurdhi income support programme. The descriptive statistics in Table 2.6 show that the working poor take at least ten more minutes to travel to the Divisional Secretariat than do the working non-poor, suggesting that the working poor are less well connected to administrative centres in terms of transport. Variables denoting how well-served the community is in terms of power and telephone lines are also included. Note that the variables denote community access rather than household access, as household access would denote whether the household is able to afford a connection to these services if the community is served, and would therefore be determined by income levels.

We now turn to the additional groups of variables included in the analysis of the probability of being working poor. There are three variables related to income. Log of real monthly earnings captures the impact of earnings in the model while Log of real monthly remittances from abroad, and Log of real monthly remittances from Sri Lanka, looks at the impact of income from sources other than earnings on the probability of being working poor. Unlike other sources of non-labour income such as income from rents and dividends which are confined to the middle and upper income-groups who have accumulated the assets necessary to generate such funds, remittances from migrant workers is a more accessible source of income for Sri Lanka's poor. Nevertheless, the descriptive statistics in Table 2.6 show that foreign remittances are much higher for the working non-poor. Also the gap between the remittances of the working poor and the working non-poor is much higher for foreign remittances than for domestic remittances.

Characteristics of the household relating to how many dependent members it has, have a bearing on whether the individual is employed and poor as they impact on whether the household is poor. Hence, the probability model also includes a variable denoting the Employed share of the household, which is the share of employed members in the household. It can be seen that working poor households have a higher dependency ratio than working non-poor households which have a higher proportion of their members employed.

The mean real monthly earnings by key population groups included as explanatory variables in the analysis of earnings to follow in Chapter 4 are presented here in Table 2.7. Working women earn on average two thirds of what men earn, whether poor or not. While Sinhalese males on average earn the highest wages among the working poor, among the working non poor, Indian Tamil and Moorish males earn more. Among poor working women, the Sinhalese and the other ethnic category earn the least, whereas among the working non poor, the other ethnic category and Indian Tamils have the highest earnings. Earnings increase monotonically with education for male and female non-poor workers but the relationship breaks down for the working poor. This could be due to different hours of work determining monthly earnings. Among the working poor, workers in manufacturing earn more than those in services and agriculture, with workers in agriculture earning the least. But note that working poor males in agriculture earn more than non-poor working females in agriculture, a result which could again be due to hours worked rather than wages. Employers earn the most, across the board, but among the working poor, own account workers earn about as much as salaried workers, and among the working non-poor, salaried workers earn more than own account workers. Generally, urban living makes for higher earnings among all groups other than poor working women. Poor women workers with residence in plantation areas have the highest monthly earnings, probably again due to more hours of work, and poor working women in rural areas earn the least. But among the working non-poor, plantation women earn the least, rural women earn almost twice as much as plantation women, and urban women earn nearly twice as much as rural women. We explore the impact of these and other variables on the earnings of the working poor and non-poor in the econometric analyses of Chapter 4.

## Table 2.7: Mean real monthly earnings by population group (Rs.)

| | Working poor | | Working non-poor | |
|---|---|---|---|---|
| | **Males** | **Females** | **Males** | **Females** |
| *Ethnicity* | | | | |
| Sinhalese | 5867 | 2948 | 12912 | 7962 |
| Sri Lankan Tamil | 5030 | 3753 | 8876 | 6264 |
| Indian Tamil | 4538 | 3429 | 15391 | 12006 |
| Moor | 7199 | 3728 | 13442 | 8081 |
| Other | 4337 | 1996 | 46165 | 17620 |
| *Education* | | | | |
| Primary education or less | 5451 | 3032 | 8032 | 3291 |
| Junior secondary education | 6052 | 2783 | 9424 | 4167 |
| Secondary education | 5840 | 3293 | 10842 | 4508 |
| GCE O' Level Qualification | 7002 | 3802 | 15216 | 8179 |
| GCE A' Level Qualification | 6113 | 2982 | 23141 | 16182 |
| Graduate | 4210 | 14736 | 33095 | 20821 |
| *Occupation* | | | | |
| Managerial | 9428 | 3927 | 31158 | 23065 |
| Professional | 5607 | 3385 | 24375 | 15853 |
| Technical | 8585 | 3869 | 17699 | 12753 |
| Clerical | 8559 | 7197 | 14089 | 12098 |
| Service | 7892 | 3462 | 10630 | 7560 |
| Agricultural | 4029 | 2386 | 9729 | 2840 |
| Production | 7355 | 3945 | 11197 | 5075 |
| Elementary | 5455 | 3422 | 7529 | 4485 |
| *Industrial Sector* | | | | |
| Agriculture sector | 4272 | 2566 | 9895 | 3129 |
| Manufacturing sector | 6987 | 3989 | 13103 | 9248 |
| Services sector | 6279 | 3332 | 14048 | 10778 |
| *Employment status* | | | | |
| Wage and salaried worker | 5928 | 3775 | 11522 | 9220 |
| Employer | 12386 | 5911 | 46118 | 103478 |
| Own account worker | 5934 | 3653 | 13779 | 5686 |
| *Community variables* | | | | |
| Residence in urban area | 6250 | 3251 | 17293 | 13553 |
| Residence in rural area | 5893 | 2970 | 11957 | 7493 |
| Residence in plantation area | 4607 | 3605 | 13428 | 4081 |
| | | | | |
| Mean monthly earnings | 6324 | 3969 | 16932 | 12838 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

# 3

# Who is likely to be Employed and Poor?

In this chapter we look at the attributes of individuals, and the households and communities they live in, which are associated with the likelihood that they will be among the working poor, conditional on them being employed. The results of the probability analysis in relation to the entire sample of employed males and females are set out in Table 3.1. The analysis proceeds sequentially, first with a basic specification (column 1) which includes the individual's income, demographic, and education-related variables, then a second specification which also includes variables related to the individual's employment and the household (column 2) and finally, with additional variables related to the community (column 3). In Table 3.2 we introduce some female gender interacted variables into the same models to isolate the impact of these characteristics on female workers.

In Table 3.1 which relates to the entire sample, the F-adjusted mean residual test for goodness of fit which takes into account the survey sampling design suggests that all three models are a good fit. As expected, the more income from different sources the employed individual gets, the less likely he or she is likely to be poor. All the income variables are highly significant in all the specifications and have the expected negative signs. Access to remittances appears to be more strongly associated with the likelihood of being working non-poor than labour earnings: the size of the negative marginal effect of foreign remittances is between two and three times the size of the impact of earnings. However, this does not mean that remittances reduce poverty more than earnings. Rather, the poorest are less likely than those above the poverty line to have relatives earning elsewhere to send them remittances.

Among the demographic and health-related variables, age is significant only in the fuller specifications. The older is the worker, the less he or she is likely to be poor. Males are also less likely to be among the working poor than females, particularly when job and community-related controls are introduced. Among the ethnicity-related variables, employed Sinhalese appear to be more likely to be among the poor than all other ethnic groups apart from the Indian Tamils. Being married has a weaker association with the likelihood of being poor in the fuller specifications.

All the education variables are significant and the effects are monotonic and rise with the level of education. So the more educated the worker, the less likely he or she is to be poor, and the negative impact of these variables on the probability of being poor is very large and highly significant. Although their impact is somewhat reduced when job-related variables and community variables are introduced in the fuller specifications, their impact remains large. In fact, going by the size of the coefficients, better education appears to be the most important factor reducing the likelihood that a worker is poor.

Higher occupation levels also reduce the likelihood that a worker is poor relative to employment in production-related occupations - the reference category.[5] But if the worker belongs to agricultural and elementary

[5] *Production-related occupations include electrical mechanics and fitters, potters, glass formers and related workers, and handicraft workers according to the ISCO-88 code.*

occupations, he or she is more likely to be poor than workers in production-related occupations. Employment in manufacturing or in the services sector is less associated with working poverty than employment in the agricultural sector, but this result holds only in the more parsimonious specifications. When controls for community-related characteristics are introduced, industrial sector of employment ceases to be a significant correlate of working poverty. Compared to own account workers, public employees are significantly less likely to be poor, whereas private sector employees are more likely to be poor. This is probably because the majority of private employees are in informal employment where wages and conditions of work are lower than in the public sector (Gunatilaka 2008).

A higher dependency ratio is strongly, positively associated with the likelihood of being poor. The results in Table 3.1 show that as the share of employed household members rises, the worker is less likely to be poor. This result also suggests that access to employment and decent earnings are critical for emerging from poverty.

Finally, we look at the impact of community variables in the fullest specification. Rural residence is strongly associated with the probability of the worker being poor compared with urban residence. But if the worker is resident in plantation areas, he or she is even more likely to be poor. The longer is the time required to go to the Divisional Secretariat, the more likely that the worker is poor. On the other hand, if the community has access to power and a telephone line then the worker is significantly less likely to be poor. Thus, weak connectivity and poor infrastructure access emerge as factors strongly associated with the likelihood of a worker being poor. Here we need to remember that we are looking at the factors associated with being working poor rather than causes for working poverty. Causality cannot be established as these results may be due to endogeneity: that is, non-poor workers may be able to afford better served and connected settlements, and use faster means of transport.

We can sum up these findings in terms of profiles of the typically poor and typically non-poor worker. The typically poor worker has less income from remittances, is relatively young, is female, is either Indian Tamil or Sinhalese, is less educated, belongs to the production, agricultural or elementary occupations, works in the agriculture sector, is an own account worker or is an employee in the private (probably informal) sector, lives in rural or estate areas far from administrative centres, and in communities not served by power or telephone lines. On the other hand, the typical worker belonging to the non-poor category has access to income from remittances, is older, is male, belongs to ethnic groups other than Indian Tamil or Sinhalese, is better educated, works in the more skilled occupation grades in the manufacturing and services sectors, is urban-based and well-connected in terms of transport, and lives in communities served by power and telephone lines.

Given the finding that women workers are more likely to be among the working poor than men, it would be interesting and instructive to further investigate which of the other factors strongly associated with being working poor, also have a strong-gender related effect. We do this in Table 3.2 where we introduce gender-interacted variables to the models in Table 3.1.

## Table 3.1: Factors associated with the probability of being working poor: Marginal effects of logistic estimation

| | (1) | (2) | (3) |
|---|---|---|---|
| *Income variables* | | | |
| Log of real monthly earnings | -0.003179*** | -0.005403*** | -0.005447*** |
| Log of real monthly remittances from abroad | -0.015014*** | -0.013948*** | -0.013507*** |
| Log of real monthly remittances from Sri Lanka | -0.006762*** | -0.007278*** | -0.007462*** |
| *Demographic and health variables* | | | |
| Age | -0.000932 | -0.002250*** | -0.002002*** |
| Age squared | -0.000010 | 0.000014 | 0.000014 |
| Male | -0.003772 | -0.017385*** | -0.018071*** |
| Sri Lankan Tamil | 0.001323 | -0.010829** | -0.003616 |
| Indian Tamil | 0.036457*** | 0.019889*** | 0.016211* |
| Moor | -0.012640* | -0.022634*** | -0.010724 |
| Other | -0.043136 | -0.044285** | -0.029441 |
| Married | 0.006797 | -0.007619* | -0.009975** |
| Days absent from work due to sickness last month | 0.000181 | -0.000130 | -0.000245 |
| *Education Variables-* | | | |
| Secondary education | -0.066749*** | -0.044452*** | -0.039166*** |
| GCE O' Level Qualification | -0.106817*** | -0.074630*** | -0.068213*** |
| GCE A' Level Qualification | -0.125470*** | -0.089354*** | -0.083852*** |
| Graduate | -0.110619*** | -0.087056*** | -0.083721*** |
| *Job-related variables* | | | |
| Managerial | | -0.031189*** | -0.028152*** |
| Professional | | -0.018319 | -0.016114 |
| Technical | | -0.029687*** | -0.027351*** |
| Clerical | | -0.038913*** | -0.036099*** |
| Service | | -0.001722 | -0.001470 |
| Agricultural | | 0.031268*** | 0.027654*** |
| Elementary | | 0.050828*** | 0.045843*** |
| Manufacturing sector | | -0.011726** | 0.000836 |
| Services sector | | -0.013946** | 0.000749 |
| Public employee | | -0.029717*** | -0.028757*** |
| Private employee | | 0.043883*** | 0.044071*** |
| Employer | | -0.015328 | -0.012759 |
| Unpaid family worker | | 0.003128 | 0.000688 |
| *Household variables* | | | |
| Employed share | | -0.191106*** | -0.191613*** |
| *Community variables* | | | |
| Residence in rural area | | | 0.039676*** |
| Residence in plantation areas | | | 0.068695*** |
| Time taken to go to Divisional Secretariat (minutes) | | | 0.000143** |
| Access to power line | | | -0.022967*** |
| Access to telephone line | | | -0.023259*** |
| F-adjusted mean residual test (p-value) | 0.2937 | 0.8229 | 0.5645 |
| Number of observations | 27249 | 27249 | 27249 |

*Notes:*

*1. The omitted categories in the dummy variable analyses are: female; Sinhalese; being single, widowed, divorced or separated; primary level education or no schooling; individual is a production worker; individual works in the agricultural sector; individual is an own account worker; residence in urban area; no access to a power line; no access to a telephone line.*

*2. ***, **, and * denote statistical significance at the one per cent, five per cent and ten per cent levels respectively.*

*3. The F-adjusted mean residual test measures goodness of fit after fitting a logistic regression model to survey data. Archer and Lemeshow's user-written Stata programme svylogitgof.ado was used to generate the test results. See Archer and Lemeshow (2006), 'Goodness-of-fit test for a logistic regression model fitted using sample survey data', in Stata Journal, 6 (1), pp. 97-105.*

In Table 3.2, the marginal effect of the interacted variable denotes the estimated impact of that variable on the probability of being poor for working women, versus the marginal effect on the equivalent non-interacted variable which denotes the estimated relationship between the variable and poverty status for working men. Hence the two marginal effects taken together show the full estimated effect of the variable on poverty status for women workers. In what follows we only discuss the significant results and we find that only the results of the interacted variables related to income, job and community are significant. Marginal effects of variables related to education all have the expected negative signs, but other than the effect of graduate level education in the shorter specification, are not significant.

Among the income variables, real monthly earnings produce the only significant results for the interacted variable. It can be seen that an increase in real monthly earnings by one per cent reduces the likelihood of a man being poor by 0.5 per cent (equation 1) or 0.6 per cent (equations 3), but a similar increase has a much smaller impact on reducing the likelihood that a woman is poor (by 0.041 pere cent (equation 1) or by 0.103 per cent (equation 3)). However, differences in hours worked between men and women may account for part of this difference. Being a professional significantly reduces the likelihood that a woman is poor. The same effects can be seen for clerks and service workers. The marginal effects for employed men for these three categories are not significant. Belonging to a technical occupation reduces the likelihood that a woman is poor by more than it reduces the likelihood that a male is poor.

## Table 3.2: Factors associated with the probability of being working poor: Marginal effects of logistic estimation with female gender-interacted explanatory variables

| | (1) | (2) | (3) |
|---|---|---|---|
| *Income variables* | | | |
| Log of real monthly earnings | -0.004828*** | -0.006552*** | -0.006394*** |
| Log of real monthly earnings interacted | 0.004415*** | 0.005543*** | 0.005362*** |
| Log of real monthly remittances from abroad | -0.016391*** | -0.014715*** | -0.014305*** |
| Log of real monthly remittances from abroad interacted | 0.005716 | 0.003309 | 0.003308 |
| Log of real monthly remittances from Sri Lanka | -0.005267* | -0.004617* | -0.004977** |
| Log of real monthly remittances from Sri Lanka interacted | -0.003642 | -0.00522 | -0.004985 |
| *Demographic and health variables* | | | |
| Age | -0.000669 | -0.001988** | -0.001868** |
| Age interacted | -0.000510 | 0.000690 | 0.001128 |
| Age squared | -0.000013 | 0.000013 | 0.000015 |
| Age squared interacted | 0.000001 | -0.000013 | -0.000019 |

| | (1) | (2) | (3) |
|---|---|---|---|
| Sri Lankan Tamil | -0.010949 | -0.015324* | -0.000923 |
| Indian Tamil | 0.020635* | -0.000641 | 0.017194 |
| Moor | -0.008621 | -0.006283 | 0.012167 |
| Other | -0.04663 | -0.043499 | -0.02918 |
| Married | 0.011547* | -0.011251* | -0.013263** |
| Married interacted | -0.009521 | 0.009384 | 0.00909 |
| Days absent from work due to sickness last month | 0.000053 | -0.000154 | -0.000231 |
| *Education Variables-* | | | |
| Secondary education | -0.070537*** | -0.046078*** | -0.040323*** |
| Secondary education interacted | 0.006742 | 0.007297 | 0.005901 |
| GCE O Level qualification | -0.105028*** | -0.072657*** | -0.065615*** |
| GCE O Level qualification interacted | -0.020242 | -0.006795 | -0.009154 |
| GCE A Level qualification | -0.122333*** | -0.086895*** | -0.080890*** |
| GCE A Level qualification interacted | -0.030714 | -0.005896 | -0.008629 |
| Graduate | -0.107850*** | -0.085455*** | -0.081758*** |
| Graduate interacted | -0.075378** | -0.039526 | -0.040925 |
| *Job-related variables* | | | |
| Managerial | | -0.031175*** | -0.026619** |
| Managerial interacted | | -0.022252 | -0.025053 |
| Professional | | 0.041916 | 0.045366 |
| Professional interacted | | -0.071365*** | -0.069563*** |
| Technical | | -0.024853*** | -0.022196*** |
| Technical interacted | | -0.032344** | -0.031927** |
| Clerical | | -0.017168 | -0.014043 |
| Clerical interacted | | -0.065776*** | -0.063612*** |
| Service | | 0.005563 | 0.0058 |
| Service interacted | | -0.038422*** | -0.036157*** |
| Agricultural | | 0.029266*** | 0.027584*** |
| Agricultural interacted | | -0.022907* | -0.018649 |
| Elementary | | 0.065739*** | 0.057467*** |
| Elementary interacted | | -0.041604*** | -0.037372*** |
| Manufacturing sector | | -0.015137** | 0.001148 |
| Manufacturing sector interacted | | -0.014091 | -0.016228 |
| Services sector | | -0.017084*** | 0.001795 |
| Services sector interacted | | 0.001691 | -0.000969 |
| Public employee | | -0.032426*** | -0.033745*** |
| Public employee interacted | | 0.028329 | 0.036957 |
| Private employee | | 0.042068*** | 0.041877*** |
| Private employee interacted | | 0.004417 | 0.005353 |
| Employer | | -0.010204 | -0.007363 |
| Employer interacted | | -0.034028 | -0.031926 |
| Unpaid family worker | | 0.005086 | 0.005577 |
| Unpaid family worker interacted | | 0.020029 | 0.016397 |
| *Household variables* | | | |
| Employed share | | -0.186233*** | -0.190149*** |

| | (1) | (2) | (3) |
|---|---|---|---|
| *Community variables* | | | |
| Residence in rural areas | | | 0.038679*** |
| Residence in rural areas interacted | | | 0.003869 |
| Residence in plantation areas | | | 0.090321*** |
| Residence in plantation areas interacted | | | -0.023723* |
| Time taken to go to Divisional Secretariat (minutes) | | | 0.000224*** |
| Time taken to go to Divisional Secretariat (minutes) interacted | | | -0.000245** |
| Access to power line | | | -0.022831*** |
| Access to telephone line | | | -0.022971*** |
| | | | |
| F-adjusted mean residual test (p-value) | 0.689 | 0.488 | 0.580 |
| Number of observations | 27249 | 27249 | 27249 |

*Notes:*

*1. The omitted categories in the dummy variable analyses are: Sinhalese; being single, widowed, divorced or separated; primary level education or no schooling; individual is a production worker; individual works in the agricultural sector; individual is an own account worker; residence in urban area; no access to a power line; no access to a telephone line.*

*2. ***, **, and * denote statistical significance at the one per cent, five per cent and ten per cent levels respectively.*

*3. The F-adjusted mean residual test measures goodness of fit after fitting a logistic regression model to survey data. Archer and Lemeshow's user-written Stata ado named 'svylogitgof' was used to generate the test results. See Archer and Lemeshow (2006), 'Goodness-of-fit test for a logistic regression model fitted using sample survey data', in Stata Journal, 6 (1), pp. 97-105.*

On the other hand, working in elementary occupations increases the likelihood of being working poor for both men and women, however, the variable is more strongly associated with working poverty among men. Rural residence increases the likelihood that a working woman is poor, relative to a man, even though the marginal effect on the interacted variable is not significant. Residence in plantation areas is associated with higher probability of being working poor for both women and men, but the effect is larger among men. The longer time it takes to go to the Divisional Secretariat is associated with a higher incidence of working poverty for men, but not for women.

The results in relation to gender and working poverty status are interesting and generally consistent with theory and findings in other countries. Higher real monthly earnings reduce the likelihood that working males are poor more than they reduce the likelihood that working women are poor. On the other hand, employment in the higher skilled occupations is even more beneficial for women in terms of reducing the likelihood that a working woman is poor. Rural residence is associated with a greater likelihood of being poor for working women than for men, but female plantation workers are less likely to be poor than male plantation workers, though more likely to be poor than working women in urban areas.

# 4

# Why do the Working Poor earn too little?

This chapter investigates why poor working people earn too little to rise out of poverty. It sets about addressing this question in two ways. First, the analysis looks at the factors that determine the earnings of the working poor and working non-poor. Second, it looks at why the working non-poor earn more than the working poor. To do this, the analysis decomposes the earnings gap between the working poor and working non-poor into contributory parts, the first related to differences in endowments of productive characteristics such as education and occupation between the two groups, and the remaining gap owing to differences in returns to these group characteristics as well as to characteristics not included in the model.

## 4.1 Determinants of the earnings of the Working Poor and Working Non-Poor

In this section we present the regression results of estimating the income generating functions. We proceed sequentially. First, we look at the determinants of the earnings of the working poor and working non-poor for the entire sample of working people. Second, we look at the different impact of these factors on working women's earnings relative to the earnings of working men. Finally, we present the regression results of the income generating functions of the sub sample of poor and non-poor own account workers, again differentiating between the impacts of these variables on self-employed women's earnings relative to self-employed men's earnings.

Table 4.1 presents the regression results for the entire sample of working people, the working poor, and the working non-poor. We first consider the impact of demographic and health variables on earnings. It can be seen that earnings rise with age but more so for the working non-poor than for the working poor, suggesting that the working non-poor are in a better position to enjoy the returns from experience. But the negative coefficient on the age squared variable for the working non-poor suggests that as age increases, earnings also increase but at a diminishing rate. Males earn much more than females and the earnings differential is much higher among the working non-poor. The gender earnings gap could be in part caused by differences in hours of work. Since the dependent variable is monthly earnings rather than hourly wages, we cannot distinguish between the impact on earnings of fewer hours worked and the impact of lower returns to labour. Of the ethnicity variables, only a few coefficients are significant. Poor working Sri Lankan Tamils and poor working Moors earn significantly more than poor working Sinhalese, the reference category. Among the working non-poor, individuals belonging to the 'other' ethnic category earn significantly more than Sinhalese non-poor. Absence due to ill-health significantly reduces earnings only among the working non-poor but its impact is the smallest among the demographic and health variables.

Education attainment has a monotonic impact on earnings and the coefficients are relatively large for the sample as a whole. However, there are notable differences in the impact of educational attainment on the earnings of the poor and non-poor. The results for the working poor suggest that poor workers with GCE O Level qualifications earn less than those with primary education or less. A similar result is obtained for GCE A Level

qualifications though not significant. These results are counter-intuitive and may be caused by using monthly earnings rather than hourly wages as the earnings variable. Those workers who have achieved higher levels of education are more likely than workers with lower educational attainment to be doing jobs which pay a monthly wage rather than a daily wage, opting for security of tenure over the uncertainty of casual work. They may also be unwilling to move down in the labour market and do manual work which would earn them more but which would entail loss of social status. So they may be doing fairly menial but white collar work for regular hours that yields a monthly salary, which is nevertheless lower than what a blue collar worker with only primary education may be able to accumulate in a month by working for a daily wage. Hence the difference in monthly earnings may reflect the impact on earnings of differences in hours worked. At the same time, the more educated among the working poor may be lacking the social capital and networks necessary to get good jobs that pay them in line with their qualifications unlike similarly educated non-poor workers who may be able to draw on their social networks and capital to obtain better-paying jobs.

Higher skilled occupations bring in higher returns for the working poor than for the working non-poor. On the other hand, the returns to lower-skilled occupations are higher for the working non-poor than for the working poor. Workers in agriculture earn the least but returns for poor workers in the manufacturing sector are higher than for the non-poor working in the same sector. Service sector workers earn even more than those in manufacturing, but the returns are higher for the working non-poor. Public employees, private employees and employers all earn far more than own account workers: the coefficients are very large and highly significant. But here, too, working poor who are public or private employees, or who are employers, earn significantly more than their non-poor counterparts. These results could again be due to differences in hours of work - with the poor putting in longer hours than the non-poor. On the other hand, it could also reflect the fact that the poor operate in a segmented labour market which does not offer the returns that non-poor workers with the same productive attributes may get in a different working environment.

Rural residence makes for lower earnings than urban residence but the results are significant only for the working non-poor. Residing in plantations, on the other hand, makes for higher earnings than residence in urban areas, but here, too, the results are significant only for the non-poor. The variables denoting connectivity are not significant but access to a power line has a significantly positive impact on earnings for the sample as a whole, but not for the poor and non-poor sub-samples.

In Table 4.2 we investigate the reasons why men, whether poor or not, earn more than women. We do this by introducing female gender interacted variables into the model for the variables that the empirical literature suggests contribute to the gender-based earnings gap. We only comment where variables have different impacts on the earnings of male and female workers. Males both poor and not poor enjoy greater returns to experience, denoted by age, than females. In fact, older poor women earn less than younger ones but older non-poor women earn more than younger non-poor women. Even so, the differential in earnings between older and younger non-poor women is only a third of the differential between older and younger non-poor males, Also, the rate of earnings growth with age is higher for non-poor females than for males. However, here again we need to keep in mind that women may be working fewer hours as they get older, and that it is this, rather than lower wages or salaries that cause the difference in earnings between men and women.

## Table 4.1: Determinants of the earnings of the working poor and non-poor: OLS estimation

| | All Employed | Working Poor | Working Non-poor |
|---|---|---|---|
| | (1) | (2) | (3) |
| *Demographic and health variables* | | | |
| Age | 0.070749*** | 0.049090** | 0.073521*** |
| Age squared | -0.000579*** | -0.000319 | -0.000617*** |
| Male | 1.044409*** | 0.746178*** | 1.100465*** |
| Sri Lankan Tamil | 0.067560 | 0.238429* | 0.026982 |
| Indian Tamil | 0.073437 | 0.199548 | 0.006240 |
| Moor | 0.135130** | 0.334940** | 0.101713 |
| Other | 0.208313 | -0.736134 | 0.303445* |
| Married | 0.148850*** | 0.170570 | 0.137411*** |
| Days absent from work due to sickness last month | -0.015778** | -0.015783 | -0.015212* |
| *Education Variables* | | | |
| Secondary education | 0.023940 | -0.113263 | 0.027586 |
| GCE O Level qualification | 0.165012** | -0.531528*** | 0.182371** |
| GCE A Level qualification | 0.367162*** | -0.537989 | 0.391562*** |
| Graduate | 0.577453*** | 1.364213*** | 0.597494*** |
| *Occupation* | | | |
| Managerial | 0.788036*** | 1.302458** | 0.715848*** |
| Professional | 0.270679*** | 0.643002 | 0.263461*** |
| Technical | 0.138815** | 1.161747*** | 0.060259 |
| Clerical | -0.022600 | 0.095024 | -0.024927 |
| Service | -0.633120*** | -0.234546 | -0.656941*** |
| Agricultural | -2.191482*** | -1.608671*** | -2.250599*** |
| Elementary | -0.768198*** | -0.603761*** | -0.758505*** |
| *Other job-related variables* | | | |
| Manufacturing sector | 0.254236*** | 0.492048*** | 0.232318*** |
| Services sector | 0.389564*** | 0.290511*** | 0.383082*** |
| Public employee | 2.373957*** | 3.469042*** | 2.242528*** |
| Private employee | 2.250763*** | 3.352349*** | 2.107826*** |
| Employer | 2.364230*** | 2.360784*** | 2.303848*** |
| *Community variables* | | | |
| Residence in rural area | -0.148831*** | -0.081639 | -0.153771*** |
| Residence in plantations | 0.438777*** | 0.236875 | 0.459673*** |
| Time taken to go to Divisional Secretariat (minutes) | -0.000495 | -0.000347 | -0.000413 |
| Access to power line | 0.157173** | 0.163670 | 0.135230 |
| Access to telephone line | -0.062449 | -0.065876 | -0.077687 |
| Constant | 3.976318*** | 3.303392*** | 4.088291*** |
| | | | |
| R Squared | 0.386 | 0.465 | 0.375 |
| Number of observations | 27249 | 3501 | 23748 |

*Notes: 1. The omitted categories in the dummy variable analyses are: female; Sinhalese; being single, widowed, divorced or separated; primary level education or no schooling; individual is a production worker; individual works in the agricultural sector; individual is an own account worker; residence in urban area; no access to a power line; no access to a telephone line; no access to a water line; household did not suffer a natural calamity last year.*

*2. ***, **, and * denote statistical significance at the one per cent, five per cent and ten per cent levels respectively.*

The introduction of gender-related variables takes away the significance of the ethnicity variables altogether. However, while marriage is associated with higher earnings for men, they are associated with lower earnings for women, both poor and non-poor. But note that the negative coefficient is much larger for non-poor women. This could be because marriage increases the time a woman spends on household activities and decreases the amount of time she can spend on income earning activities. Non-poor women workers may be putting in fewer hours in paid employment and thereby earning less. Sickness affects the earnings of the non-poor significantly.

The issue of hours of work also likely influences the results for the education variables: note the negative and significant coefficients for GCE O Levels and A Levels for the working poor, although the interacted variables are not significant. Nevertheless, poor women who have secondary education earn much more than poor men with secondary education. But among the working non-poor, women with secondary level education earn less than equivalent men who also earn more than the reference category, primary educated men (Table 4.2, equation 1). Graduate level education substantially and significantly increases the earnings of working poor males, but only marginally for working poor females. On the other hand, among the working non-poor, a degree enables a woman to earn more than a similarly educated man. Thus the returns to education for women appear higher than for men, particularly for the non-poor, and those with higher levels of educational attainment.

## Table 4.2: Determinants of the earnings of the working poor and non-poor with female gender interacted variables: OLS estimation

| | Working Poor | Working Non-poor |
|---|---|---|
| | (1) | (2) |
| *Demographic and health variables* | | |
| Age | 0.064904*** | 0.095585*** |
| Age interacted | -0.086831*** | -0.069532*** |
| Age squared | -0.000591** | -0.000936*** |
| Age squared interacted | 0.001130*** | 0.000916*** |
| Sri Lankan Tamil | 0.204932 | 0.174056 |
| Indian Tamil | 0.362001 | 0.162903 |
| Moor | 0.410025 | 0.184394 |
| Other | -2.54309 | -0.26479 |
| Married | 0.583803*** | 0.674769*** |
| Married interacted | -0.834124*** | -1.228184*** |
| Days absent from work due to sickness last month | -0.01856 | -0.017262** |
| *Education Variables-* | | |
| Secondary education | -0.226883** | 0.127012** |
| Secondary education interacted | 0.402987** | -0.207797* |
| GCE O Level qualification | -0.509718** | 0.253894*** |
| GCE O Level qualification interacted | -0.05087 | -0.06031 |
| GCE A Level qualification | -0.834220* | 0.365769*** |
| GCE A Level qualification interacted | 0.84418 | 0.077932 |
| Graduate | 2.372539*** | 0.591013*** |
| Graduate interacted | -2.199637*** | 0.188373 |
| *Occupation* | | |
| Managerial | 0.807748 | 0.582922*** |
| Managerial interacted | 1.856034 | 0.401303* |

| | Working Poor (1) | Working Non-poor (2) |
|---|---|---|
| Professional | 1.199398*** | 0.097804 |
| Professional interacted | -1.12043 | -0.07378 |
| Technical | 1.013718*** | 0.196810*** |
| Technical interacted | 0.224523 | -0.500047*** |
| Clerical | 0.159533 | -0.120462* |
| Clerical interacted | 0.308848 | -0.10364 |
| Service | 0.081642 | -0.395606*** |
| Service interacted | -1.267547*** | -0.352083* |
| Agricultural | -2.063486*** | -2.397316*** |
| Agricultural interacted | 0.572406* | 0.078697 |
| Elementary | -0.397934*** | -0.543116*** |
| Elementary interacted | -0.363586* | -0.487614*** |
| *Other job-related variables* | | |
| Manufacturing sector | 0.356762*** | 0.170774** |
| Services sector | 0.204204** | 0.285945*** |
| Public employee | 2.478651*** | 1.448989*** |
| Public employee interacted | 2.134034*** | 2.226533*** |
| Private employee | 2.470479*** | 1.441100*** |
| Private employee interacted | 2.049343*** | 1.867761*** |
| Employer | 1.800290** | 1.737778*** |
| Employer interacted | 3.209241** | 1.832107*** |
| *Community variables* | | |
| Residence in rural areas | -0.07517 | -0.089145* |
| Residence in rural areas interacted | -0.33982 | -0.14834 |
| Residence in plantation areas | -0.1666 | -0.165932* |
| Residence in plantation areas interacted | 0.517894 | 1.114661*** |
| Time taken to go to Divisional Secretariat (minutes) | 0.000159 | 0.000249 |
| Time taken to go to Divisional Secretariat (minutes) interacted | -0.00308 | -0.00198 |
| Access to power line | 0.151475 | 0.113619 |
| Access to telephone line | -0.09525 | -0.082954* |
| Constant | 4.441407*** | 4.863377*** |
| | | |
| R Squared | 0.493 | 0.410 |
| Number of observations | 3501 | 23748 |

*Notes:*
*1. The omitted categories in the dummy variable analyses are: Sinhalese; being single, widowed, divorced or separated; primary level education or no schooling; individual is a production worker; individual works in the agricultural sector; individual is an own account worker; residence in urban area; no access to a power line; no access to a telephone line; no access to a water line; household did not suffer a natural calamity last year.*
*2. ***, **, and * denote statistical significance at the one per cent, five per cent and ten per cent levels respectively.*

With respect to occupation characteristics, working poor and working non-poor women earn much less than men in the elementary and service categories, but earn more than men in managerial occupations. Poor women earn more than poor men in the clerical and technical occupations but the results are not significant, but non-poor women earn less than men in the clerical and technical categories.

In fact, the earnings gap between non-poor males and females is largest in the technical occupations, where the coefficients on the relevant variables are large. Interestingly, while agricultural occupations are associated with lower earnings, its negative impact on women's earnings is much less than on men's. While public and private sector workers and employers earn much more than own account workers, females in these jobs earn more than equivalent men, whether poor or not.

Residential sector significantly influences only the earnings of the non-poor. While rural non-poor males earn less than urban males, women in rural areas earn even less although the coefficient is not significant. However, while males resident in plantation areas earn less than urban males, plantation women earn substantially more than equivalent plantation males. This may be because plantation non-poor women work longer hours than equivalent males.

Finally we turn to the determinants of the earnings of poor and non-poor own-account workers. Table 4.3 presents the results of the OLS estimation of the earnings functions. Non-poor own-account workers are in a position to benefit from experience, unlike poor self-employed workers. Male gender also makes for higher earnings among the non-poor self-employed, which may also be related to their putting in more hours than equivalent females. Poor ethnic Moors working on their own earn significantly more than any other ethnic category. None of the education variables is significant for poor workers, but among the non-poor, earnings rise monotonically with greater education attainment. Self-employed managers earn more than production workers, non-poor managers significantly so. Poor and non-poor clerks working on their own earn significantly less than production workers, but agricultural workers earn the least. Non-poor own-account workers in urban areas earn the most and the self-employed on the plantations earn the least. Greater connectivity gives rise to higher earnings only for the non-poor. Note that this variable is a significant determinant of earnings only for the non-poor self-employed. It was not significant in the earnings functions involving a larger sample. Also, there may be an issue of endogeneity here: unlike the poor, the non-poor may be able to afford to live near administrative centres.

Table 4.4 introduces female gender interacted variables into the earnings functions of poor and non-poor own-account workers. Poor and non-poor self-employed females enjoy lower returns to experience than males. The introduction of interacted variables makes more of the ethnicity dummies (not interacted) significant. Sri Lankan Tamil own-account workers earn more than the reference category, Sinhalese, but poor Indian Tamil own-account workers earn far less. The earnings of poor female own-account workers rise with higher educational attainment, but education is not a significant determinant of earnings among non-poor own-account females, perhaps due to their being able to afford to work less hours.

## Table 4.3: Determinants of the earnings of poor and non-poor own account workers: OLS estimation

| | All own account workers | Poor own account workers | Non-poor own account workers |
|---|---|---|---|
| | (1) | (2) | (3) |
| *Demographic and health variables* | | | |
| Age | 0.041267** | 0.025090 | 0.044208** |
| Age squared | -0.00033 | 0.000013 | -0.000393* |
| Male | 0.590454*** | -0.184544 | 0.686650*** |
| Sri Lankan Tamil | 0.058385 | 0.600422 | 0.011502 |
| Indian Tamil | -0.39000 | -0.813427 | -0.231976 |
| Moor | 0.065885 | 1.065652*** | -0.009709 |
| Other | 0.287602 | 0.242474 | 0.310232 |
| Married | 0.059105 | 0.339489 | 0.027679 |
| Days absent from work due to sickness last month | -0.027080* | -0.054102 | -0.021190 |
| *Education Variables* | | | |
| Secondary education | 0.265629** | 0.094144 | 0.241582** |
| GCE O Level qualification | 0.609191*** | -1.08277 | 0.602134*** |
| GCE A Level qualification | 1.027749*** | -0.04507 | 0.986372*** |
| Graduate | 2.211688*** | | 2.172428*** |
| *Occupation* | | | |
| Managerial | 0.284528** | 0.238347 | 0.283148** |
| Professional | -0.287221* | 1.003904 | -0.28345 |
| Technical | 0.098389 | 0.350725 | 0.079555 |
| Clerical | -0.300126* | -0.997782* | -0.310053* |
| Service | -0.29912 | 0.197853 | -0.30580 |
| Agricultural | -3.028761*** | -3.226299*** | -2.939095*** |
| Elementary | -0.385521** | -0.82170 | -0.23785 |
| *Other job-related variables* | | | |
| Manufacturing sector | -0.12681 | -0.01140 | -0.085297 |
| Services sector | 0.269097 | 0.219062 | 0.285170 |
| *Community variables* | | | |
| Residence in rural area | -0.372532*** | 0.086503 | -0.386854*** |
| Residence in plantations | -1.298397*** | -1.574374* | -1.139597*** |
| Time taken to go to Divisional Secretariat (minutes) | 0.003096* | 0.002452 | 0.003453* |
| Access to power line | 0.110721 | 0.325907 | 0.027346 |
| Access to telephone line | -0.129004 | -0.46068 | -0.09789 |
| Constant | 6.743970*** | 6.397931*** | 6.782822*** |
| | | | |
| R Squared | 0.236 | 0.217 | 0.234 |
| Number of observations | 7212 | 713 | 6499 |

*Notes:*

*1. The omitted categories in the dummy variable analyses are: female; Sinhalese; being single, widowed, divorced or separated; primary level education or no schooling; individual is a production worker; individual works in the agricultural sector; individual is an own account worker; residence in urban area; no access to a power line; no access to a telephone line; no access to a water line; household did not suffer a natural calamity last year.*

*2. ***, **, and * denote statistical significance at the one per cent, five per cent and ten per cent levels respectively.*

Poor and non-poor women in agricultural occupations earn less than female production workers, but they still earn more than poor men in agricultural occupations. Non poor self-employed managers and clerks earn more than their male equivalents. Among the community variables, only residence in plantations appears to have a different impact on women's earnings than males, but the number of poor, female, self-employed plantation workers in the sample is very small. Hence the finding can be dismissed on statistical grounds.

In the next section we extend this analysis further by estimating the extent to which the earnings differential between poor and non-poor workers is due to difference in group characteristics of the sort we have looked at here, and how much of it is due to differences in the returns to these group characteristics and to characteristics not included in the model.

## Table 4.4: Determinants of the earnings of poor and non-poor own account workers with female gender interacted variables: OLS estimation

| | Working Poor | Working Non-poor |
|---|---|---|
| | (1) | (2) |
| *Demographic and health variables* | | |
| Age | 0.061663 | 0.058361** |
| Age interacted | -0.123149* | -0.077899*** |
| Age squared | -0.00038 | -0.000559** |
| Age squared interacted | 0.001317 | 0.000966*** |
| Sri Lankan Tamil | 1.864758** | 0.508778** |
| Indian Tamil | -2.544051** | 0.258814 |
| Moor | 1.251548* | -0.04383 |
| Other | 1.482067 | -0.53906 |
| Married | 0.369354 | 0.093752 |
| Married interacted | -0.44624 | 0.085378 |
| Days absent from work due to sickness last month | -0.04917 | -0.02104 |
| *Education Variables-* | | |
| Secondary education | -0.17622 | 0.293078** |
| Secondary education interacted | 1.185861* | -0.23559 |
| GCE O Level qualification | -1.552102* | 0.627115*** |
| GCE O Level qualification interacted | 2.067865** | -0.05288 |
| GCE A Level qualification | -0.82433 | 1.012996*** |
| GCE A Level qualification interacted | 2.121543 | -0.14017 |
| Graduate | | 1.710575*** |
| Graduate interacted | | 1.240979** |
| *Occupation* | | |
| Managerial | 0.361606 | 0.165087 |
| Managerial interacted | 1.212972 | 0.749411*** |
| Professional | 1.431227 | -0.31733 |
| Professional interacted | -0.58015 | 0.597655* |
| Technical | 0.453376 | 0.062438 |
| Technical interacted | 0.517582 | 0.369720* |
| Clerical | -1.294084** | -0.458555** |
| Clerical interacted | | 1.520842*** |
| Service | 0.159109 | -0.25832 |

| | Working Poor (1) | Working Non-poor (2) |
|---|---|---|
| Service interacted | | 0.463216 |
| Agricultural | -4.025727*** | -3.155100*** |
| Agricultural interacted | 2.528065*** | 1.318255*** |
| Elementary | -0.4419 | -0.382505* |
| Elementary interacted | -0.1935 | 0.819342** |
| *Other job-related variables* | | |
| Manufacturing sector | -0.02301 | 0.102692 |
| Services sector | -0.23762 | 0.257705 |
| *Community variables* | | |
| Residence in rural areas | -0.646192* | -0.395711*** |
| Residence in rural areas interacted | 1.445099 | 0.085881 |
| Residence in plantation areas | -2.777595*** | -1.329054*** |
| Residence in plantation areas interacted | 4.070484** | 0.580246 |
| Time taken to go to Divisional Secretariat (minutes) | 0.003609 | 0.003262 |
| Time taken to go to Divisional Secretariat (minutes) interacted | -0.00885 | -0.00116 |
| Access to power line | 0.32996 | 0.015693 |
| Access to telephone line | -0.43921 | -0.10698 |
| Constant | 6.817203*** | 7.249065*** |
| | | |
| R Squared | 0.233 | 0.240 |
| Number of observations | 713 | 6499 |

*Notes:*
*1. The omitted categories in the dummy variable analyses are: Sinhalese; being single, widowed, divorced or separated; primary level education or no schooling; individual is a production worker; individual works in the agricultural sector; individual is an own account worker; residence in urban area; no access to a power line; no access to a telephone line; no access to a water line; household did not suffer a natural calamity last year.*
*2. ***, **, and * denote statistical significance at the one per cent, five per cent and ten per cent levels respectively.*

## 4.2 Why do the Working Non-Poor earn more than the Working Poor?

In this section we look at why the working poor do not earn as much as the working non-poor in order to be able to get out of poverty. We do this by applying the Oaxaca-Blinder decomposition methodology to the earnings gap between the working poor and the working non-poor and by estimating the extent to which the gap is accounted for by differences in characteristics such as education and occupation between the two groups, as well as the extent to which the gap remains unexplained, that is caused by characteristics not accounted for in the model plus returns to the included and omitted characteristics.

The results of the decomposition for the entire sample are presented in Table 4.5. Results disaggregated by sex are presented in Tables 4.6 and 4.7. The explanatory variables used for the earnings functions in the preceding section as well as in the decomposition procedure, are grouped into eight categories in the tables. The contribution of each category to the earnings differential is expressed as a percentage of the differential which is set equal to +100 per cent. A positive sign indicates that that group of attributes serves to widen the gap (i.e. enabling the non-poor to earn more, or the poor to earn less). A negative sign indicates that the attributes serve to reduce the earnings gap (i.e. attributes enable the poor to earn relatively more or the non-poor to earn relatively less).

The first column sets out the contribution of differences in group characteristics to the earnings differential and the second column sets out the contribution of the returns to these characteristics and the constant (which includes omitted variables and returns to them). The third column sums the explained and unexplained contribution of that group of attributes.

The results in Table 4.5 show that differences in group characteristics between the working poor and the working non-poor account for two thirds of the earnings gap between the two. The group characteristics are those attributes accounted for in the earnings functions and grouped under eight heads in the table. A third of the gap remains unexplained, and given that our dependent variable is the product of both hours of work and the wage rate, it is likely that differences in hours of work also contribute to this unexplained component. For example, moving down the rows, it can be seen that mean differences in demographic characteristics (including sex) between the poor and the non-poor, and returns to them is the biggest driver of the earnings differential. The contribution of the unexplained component of demographic characteristics amount to a little more than the entire earnings gap. In this case, it is likely that different hours of work between poor and non-poor males and females contribute to the unexplained component. Gender-based discrimination in wages is also likely to contribute to this gap as Gunewardena (2006) has suggested. Different hours worked by the poor and non-poor of the same age, can also similarly contribute towards the unexplained component. Ethnic characteristics of workers by themselves contribute little to the earnings gap (reducing the gap by less than one per cent). But the unexplained contribution of this group of variables serves to reduce the gap by a substantial 19 per cent. In addition to differences in working hours, Gunewardena's (2006) findings suggest that ethnicity-based discrimination in wages may also be at play,.

Differences in education endowments between the poor and non-poor expand the gap, but this effect is neutralized by the unexplained contribution of these characteristics in terms of returns to them. So for example, while poor and non-poor workers have different educational qualifications which contribute 12 per cent of the total earnings gap between the two groups, where the poor and non-poor have the same educational qualifications, the poor may be working longer hours, giving rise to differences in the returns to these endowments. Or else, the poor may be operating in a segmented market where better qualifications command a premium, whereas the equally qualified non-poor person may be operating in a market where there are many with the same qualifications and where those qualifications attract lower returns than in the market of the poor.

## Table 4.5: Oaxaca-Blinder decomposition of the earnings gap between the working poor and working non-poor (%)

| | Explained | Unexplained | Total gap |
|---|---|---|---|
| Demography (age, sex, marital and health status) | 5.16 | 102.45 | 107.61 |
| Ethnicity | -0.79 | -18.82 | -19.60 |
| Education | 11.67 | -10.34 | 1.33 |
| Occupation | 64.82 | 14.12 | 78.94 |
| Industry | 10.65 | 2.97 | 13.62 |
| Job status | -20.06 | -40.77 | -60.83 |
| Residential sector | -4.73 | -12.53 | -17.26 |
| Connectivity and infrastructure | 0.66 | -5.49 | -4.83 |
| Constant | 0.00 | 1.02 | 1.02 |
| Total | 67.38 | 32.62 | 100.00 |

*Notes: 1. The mean log of real earnings are 7.375968 in the case of the working poor and 8.027258 in the case of working non-poor, creating a working poor shortfall of 0.65129 (set equal to +100%) to be explained by the decomposition. Thus the combined contributions of explained and unexplained factors sum to 100%.*
*2. Decomposition results generated using Jann's (2008) oaxaca.ado programme for Stata. See, Jann (2008), The Blinder-Oaxaca decomposition for linear regression models. The Stata Journal, 8 (4), 453-479.*

Explained differences in occupation characteristics amount to nearly two thirds of the total gap, and next to the unexplained component of demographical attributes, is the largest driver of the earnings differential between the poor and non-poor. Differences in the industrial sector of employment between the poor and non-poor - for example, the poor are more concentrated in the agricultural sector which is associated with lower earnings - make up a tenth of the earnings gap, and the unexplained contribution of this attribute serves to expand the gap a little more.

Job status characteristics and sector of residence serve to reduce the earnings differential between the working poor and the working non-poor. However, while differences in job status characteristics between the two groups reduce the earnings differential by a fifth, the unexplained component of these variables reduces the differential by two fifths. With respect to sector of residence, too, it is the unexplained component which contributes more towards reducing the gap, rather than the simple fact of whether the poor are concentrated in the rural rather than the urban sector.

To briefly sum up these findings, the decomposition results show that differences in observed characteristics accounted for in the model accounts for two thirds of the earnings gap between the poor and the non-poor. In order of magnitude, differences in occupation, education and industry related attributes between the poor and the non-poor contribute most to the explained component of the gap, that is, education and type or quality of employment matter the most. Among the unexplained components, returns to demography and occupation contribute the most to widening the gap, but returns to job status, residential sector and education, work to reduce the gap.

We turn next to the decomposition of the earnings gaps between poor and non-poor male workers, and poor and non-poor female workers. For males, the explained and unexplained components each accounts for roughly half of the earnings differential between the working poor and the working non-poor (Table 4.6). But the earnings gap would probably be much higher if not for the unobserved variables included in the constant which serve to drastically reduce the total gap. Again demography (excluding sex) contributes the most (126 per cent), but occupation also contributes a major share (78 per cent). In terms of differences in the distribution of occupations, it accounts for 45 per cent of the earnings differential, but in terms of unexplained returns, too, it contributes 31 per cent. Differences in returns to ethnicity attributes contribute as much as education (mainly through the unexplained differential returns to educational attainments between the poor and non-poor) does to the gap in earnings between poor men and non-poor men. Previous analyses have also found ethnicity to play a role in wage gaps among males. For example, Gunewardena (2006) found that raw wage gaps favoured Sinhalese males over Tamil males which were only partly explained by the lower productive characteristics of Tamils.

## Table 4.6: Oaxaca-Blinder decomposition of the earnings gap between the working poor and working non-poor males (%)

| | Explained | Unexplained | Total gap |
|---|---|---|---|
| Demography (age, marital and health status) | 3.93 | 121.57 | 125.50 |
| Ethnicity | 1.41 | 34.22 | 35.62 |
| Education | 8.02 | 25.60 | 33.62 |
| Occupation | 45.15 | 31.41 | 76.57 |
| Industry | 6.76 | 4.11 | 10.87 |
| Job status | -14.00 | -29.83 | -43.84 |
| Residential sector | 0.84 | -4.82 | -3.98 |
| Connectivity and infrastructure | -1.87 | -4.94 | -6.81 |
| Constant | 0.00 | -127.55 | -127.55 |
| Total | 50.23 | 49.77 | 100.00 |

*Notes: 1. The mean log of real earnings are 8.310328 in the case of working poor males and 7.601429 in the case of working non-poor males, creating a working poor shortfall of 0.708899 (set equal to +100%) to be explained by the decomposition. Thus the combined contributions of explained and unexplained factors sum to 100%.*
*2. Decomposition results generated using Jann's (2008) oaxaca.ado programme for Stata. See, Jann (2008), The Blinder-Oaxaca decomposition for linear regression models. The Stata Journal, 8 (4), 453-479.*

## Table 4.7: Oaxaca-Blinder decomposition of the earnings gap between the working poor and working non-poor females (%)

| | Explained | Unexplained | Total gap |
|---|---|---|---|
| Demography (age, marital and health status) | 7.03 | 48.47 | 55.50 |
| Ethnicity | -6.92 | -76.11 | -83.03 |
| Education | 35.83 | -52.85 | -17.01 |
| Occupation | 131.54 | -24.96 | 106.58 |
| Industry | 3.52 | 7.64 | 11.15 |
| Job status | -32.83 | -15.76 | -48.58 |
| Residential sector | -21.04 | -30.19 | -51.23 |
| Connectivity and infrastructure | 6.21 | 19.62 | 25.83 |
| Constant | 0.00 | 100.80 | 100.80 |
| Total | 123.33 | -23.33 | 100.00 |

*Notes:*
*1. The mean log of real earnings are 7.496351 in the case of working poor females and 7.046575 in the case of working non-poor females, creating a working poor shortfall of 0.449776 (set equal to +100%) to be explained by the decomposition. Thus the combined contributions of explained and unexplained factors sum to 100%.*
*2. Decomposition results generated using Jann's (2008) oaxaca.ado programme for Stata. See, Jann (2008), The Blinder-Oaxaca decomposition for linear regression models. The Stata Journal, 8 (4), 453-479.*

The gap in earnings between non-poor women and poor women is much smaller than that between non-poor males and poor males, but in contrast to men, differences in group characteristics among women account for an overwhelming share of the earnings gap between poor and non-poor women (Table 4.7). These results are driven largely by differences in the distribution of occupations among the two groups. And unlike for males, demography accounts for a much smaller share, even though as in the case of males, different returns to demographic attributes accounts for much of the contribution. Again in contrast to males, ethnicity works to substantially reduce earnings differentials, particularly in terms of the unexplained component. And as in the full sample, group differences in educational attainment contribute positively towards the earnings gap, but differences in the returns to educational attainment (the unexplained component) more than makes up for this so that the net effect of education on the total gap is to reduce it. Residential sector also serves to reduce the earnings gap far more strongly than in the case of males, and it is likely that the higher earnings - no doubt driven by longer hours - of women in the plantation sector compared to the urban and rural sectors, drives this result. Connectivity and infrastructure also appears to have a far stronger, positive impact on the earnings gap between poor women and non-poor women, than on the earnings gap between poor men and non-poor men, most likely because women would find it more difficult to overcome disadvantages related to transport connectivity than men in the same situation, and so women living further from administrative centres are more disadvantaged relative to more centrally located females, than men similarly placed.

In sum then, differences in group characteristics between the poor and non-poor accounts for the major portion of the earnings gap between the two. This is especially the case where women are concerned. Demography and occupation appear to be the principal drivers, with education also contributing. For males, ethnicity increases the earnings differential, for females, it reduces it. Connectivity and infrastructure work to widen the earnings gaps between poor and non-poor women but reduces it between poor and non-poor men. Residential sector reduces the earnings gap for women far more than for men, but the results are likely driven by the earnings (and longer hours of work) of plantation women.

In the next chapter we summarize the findings of the econometric analyses and draw their implications for policy.

# 5 Conclusions and Directions for policy

This paper set out to build a profile of Sri Lanka's working poor in terms of stock and characteristics; attributes associated with the probability of being working poor, and the reasons why the employed poor earn too little to overcome poverty.

The study applied the ILO's definition of working poverty which characterizes the working poor as those who both work and belong to poor households, and used data from the Household Income and Expenditure Survey of 2006/7 for the analysis. It used the national poverty line developed by the Department of Census and Statistics to determine whether a household was poor, but also used the PPP-adjusted $1.25 and $2.00 per individual per day poverty lines to generate working poverty figures to enable international comparison.

Because of limitations of the survey, the study was unable to use a precise, time-bound definition of employment. As a result, HIES figures for employment are somewhat biased downwards. Consequently, working poverty figures produced by this study are likely to be lower than if the time bound definition of the Labour Force Survey were used instead. Another limitation which had an impact on the analysis of earnings is that the survey does not have information about hours of work. Hence we used monthly earnings rather than hourly earnings as the earnings variable, and consequently, have been unable to distinguish between the impact that hours of work, as opposed to returns to labour, may have had on our results.

In what follows we present the summary findings of the analysis and draw their implications for policy formulation and future research.

## 5.1 Findings of the study

### The working poor and their characteristics

According to the national poverty line, 13.7 per cent or roughly a million of employed Sri Lankans were poor in 2006/07. The working poverty figures for the $1.25 and $2 per individual per day poverty lines were 6.4 and 28.0 per cent respectively, suggesting a high degree of vulnerability just above the lower poverty line. The urban sector has the lowest concentration of the working poor and the estates the highest concentration. Working poverty rates are significantly lower in Western Province and are highest in Uva, Sabaragamuwa and Central Provinces. The distribution of the working poor between the two sexes - males 69 per cent and females 31 per cent - mirrors the distribution across sexes of the employed population as a whole.

Agriculture is the main repository of working poverty, with 43 per cent of all working poor and 54 per cent of poor females working in the sector. Manufacturing accounts for only 15 per cent, while sub sectors in the services sector, apart from health and social work (15 per cent) and construction (9 per cent), are less associated with working poverty than either agriculture or manufacturing. The working poor are also more highly concentrated

among wage and salaried workers while the lower skilled occupation categories are the largest repositories of working poverty. In particular, 45 per cent of poor women work as production workers. The working poor are also less well educated. Almost half of them, a greater proportion of women (53 per cent) than men (47 per cent), have only primary education or less.

## Factors associated with the likelihood of being working poor

The investigation of the factors associated with the probability of being working poor found that older workers and males were less likely to be poor. Higher levels of education and higher occupation levels reduced the likelihood that a worker is poor. Compared to own-account work, working in the public sector, as an employer, or as an own account worker was less associated with poverty, while working as private employees, most likely as informal workers, was more associated with being poor. A higher dependency ratio was found to be more strongly associated with the likelihood of being poor, suggesting that access to employment and decent earnings are important for coming out of poverty. Urban residence was less associated with working poverty than living in either rural areas or in plantations, while workers living further away from administrative centres and lacking access to infrastructure were more likely to be poor.

Thus, the typically poor worker in 2006/07 had less income from remittances, was relatively young, was female, was either Indian Tamil or Sinhalese, was less educated, belonged to the production, agricultural or elementary occupations, worked in the agriculture sector, was an own account worker or an employee in the private (probably informal) sector, lived in rural or estate areas far from administrative centres, and in communities not served by power or telephone lines. On the other hand, the typical worker belonging to the non-poor category had access to income from remittances, was older, was male, belonged to ethnic groups other than Indian Tamil or Sinhalese, was better educated, worked in the more skilled occupation grades in the manufacturing and services sectors, was urban-based and well-connected in terms of transport, and lived in communities served by power and telephone lines. However, comparing the typical working poor woman with the typical working poor man, the study found that the woman was likely to earn less, was more likely to be a production worker resident in rural areas, but less likely to be a plantation worker.

## Reasons why the poor earn too little to come out of poverty

The study's findings on the determinants of the earnings of the working poor and working non-poor need to be tempered by the limitation of using monthly earnings as the earnings variable in the absence of hours of work to construct an hourly earnings variable. Hence the analysis could not distinguish between the impact on earnings of returns to various attributes of workers, and of differences in hours of work.

It is very likely that this influenced the results related to the impact of education on the earnings of the working poor. Even though education attainment was found to have a monotonic and large impact on earnings for the sample as a whole, the relationship breaks down with respect to GCE O Level and A Level qualifications of the working poor. This suggests that lower hours of work by the better educated working poor, or their operating in segmented markets, may have an impact on earnings.

Higher skilled occupations brought higher returns for the working poor than for the working non-poor but lower-skilled occupations provided much lower returns for the working non-poor. The working poor also earned significantly more than their non-poor counterparts if they were public or private employees, or employers. This again could be due to differences in hours of work with the poor putting in longer hours than the non-poor, or else it could be due to the working poor operating in a segmented labour market.

The study also found the working poor less able to enjoy the returns from experience - poor women even less than poor men, and that males earn more, whether they are poor or not. Poor working Sri Lankan Tamils and Moors earn more than poor working Sinhalese. None of the community variables such as sector of residence, connectivity and infrastructure access were found to be significant determinants of the working poor's earnings.

The study was able to evaluate the impact of differences in these attributes between the working poor and non-poor on earnings differentials between the two groups by deploying the Oaxaca-Blinder decomposition methodology. The analysis found that such differences accounted for two thirds of the earnings gap between employed poor and non-poor. Differences in occupation between the poor and non-poor contributed the most, followed by differences in education attainment and industrial sector of occupation. The third of the earnings gap that observed differences in attributes between the two groups left unaccounted for, were mostly driven by unexplained components related to demography and education. Different hours of work could also contribute to the unexplained part of the earnings differential. Differences in ethnicity, job status and sector of residence between the two groups worked to reduce the earnings differential, as did unexplained components related to these characteristics.

Analysis of the earnings gap between the poor and non-poor by sex showed that differences in attributes, mostly occupation and then education, accounted overwhelmingly for the earnings differential between poor and non-poor women. Differences in connectivity and infrastructure also contributed to widening the earnings differential. In contrast, only half of the earnings gap between poor men and non-poor men could be accounted for by differences in observed characteristics between the two groups. While differences in occupation contributed handsomely, unexplained factors related to demography, ethnicity and education together contributed much more.

In the next section we draw the policy implications of these findings and suggest directions for future research.

## 5.2 Directions for policy and further research

This study is a first attempt at looking at the factors associated with the likelihood of being employed and poor in Sri Lanka, and at answering the question why the working poor earn too little to come out of poverty. The investigation used the available household income and expenditure data, which turned out to have certain limitations when applied to this kind of analysis. As discussed at length in preceding sections, the HIES definition of employment does not allow as precise a measurement of working poverty as required by the ILO definition and likely facilitates underestimation of the stock of working poor. Secondly, the non-availability of information about working hours constrained the analysis about the factors that determine the earnings of the poor and working poor, and set certain limits about what can be inferred from the results relating to returns to productive attributes of workers.

Therefore, one of the key policy conclusions to emerge from this study is to improve the data necessary for this type of analysis by introducing a more precise definition of employment and questions about the hours of work of employed individuals, to the HIES questionnaire.

While more precise information about earnings and employment will improve the quality of similar analyses in the future, there is still much to be gleaned by way of inputs for policy formulation from the present study. The findings of this study again underline and highlight the importance of educational attainment to enhance the income earning capability of the working poor, as a means of getting out of poverty. Since education and training in turn determines occupations and jobs, themselves important determinants of earning capacity, improving poor people's skill levels is a sure way of equipping them with the necessary productive characteristics to earn more and get out of poverty. Women, in particular, are likely to benefit from policies aimed at improving their

productive capacity through education and training. With respect to sector-level policies, too, the findings of this study suggests that since the majority of the working poor is in agriculture, followed by manufacturing, policies that support the ongoing structural transformation of employment, from agriculture to higher value-added services, are likely to enable more of the working poor to come out of poverty. The present analysis also found that own-account work was less associated with the probability of being poor than employment as salaried workers. This suggests that self-employment in productive work may be a route out of poverty for many working poor, and policies to enhance entrepreneurship, develop micro-enterprises, and enhance the quality of employment in micro-enterprises may contribute towards reducing poverty among the working poor. Certain regulatory and business registration procedures and requirements that discourage micro-enterprises from expanding and formalizing may also need to be reviewed.

Nevertheless, the findings of this study, as well as previous analyses on informal employment (see Arunatilake and Jayawardena 2005; Gunatilaka 2008), suggest that the working poor are unable to get the jobs that reward their endowments of education in the same way that the jobs of the working non-poor reward theirs. Hence there appear to be problems of labour market segmentation, with the working poor being unable to access better employment opportunities which similarly qualified working non-poor do. Segmentation may be partly caused by problems of connectivity, infrastructure access, as well as ethnic and language barriers, as in the case of plantation Tamils, and the present study presents some evidence to confirm this. For example, it was found that urban living makes for higher earnings, so if people were able to overcome barriers of transport and travel to work in urban areas, or else move to urban areas if housing were affordable, they may be more likely to access better paid jobs. Thus, there is a clear case for policy to improve connectivity, the availability of affordable housing and other infrastructure to reduce segmentation and integrate labour markets. Here again, improving connectivity and access to infrastructure can particularly benefit poor women, as differences in these endowments account for a sizeable proportion of the earnings gap between poor and non-poor working women.

Nevertheless, the analysis suggests that even when these factors are controlled for, the working non-poor earn more, and that even within the categories of occupation and job status analysed in this study, the working non-poor access the better paying jobs. Thus, the role played by poor people's lower endowments of soft skills, social and information networks on the one hand, and the recruitment policies and practices of firms, on the other, in preventing the poor from accessing better paid jobs, though recognized (see for example, Amarasuriya 2006; Arunatilake and Jayawardena 2006), has yet to be subject to rigorous analysis. Moreover, empirical studies in other countries using experimental methods have suggested that attributes such as self-confidence and physical appearance including height, command a wage premium in the labour market (Markus and Rosenblat 2006; Persico et al. 2004). Clearly, most poor would be disadvantaged in relation to the non-poor in these factors which may also contribute to their earning less.

While conventional sample surveys such as those conducted by the Department of Census and Statistics provide extensive and rich data bases to investigate what we already know about in greater detail and, as methodologies evolve, with more rigor, they are not designed to, and cannot be expected to, generate the information needed to investigate these other factors that keep poor workers poor. Hence, these issues need to be investigated with a different toolkit of data collection and analytical methodologies, including innovative field experiments, experimental techniques, and qualitative methods (see Angrist and Pischke 2010 for a review of the related methodological literature).

It is hoped that the findings of the present study will provide a baseline on the situation of Sri Lanka's working poor, from which innovative and experimental research can proceed to find out more about why nearly a million employed Sri Lankans are poor, and what can be done to help them come out of poverty.

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# Technical Appendix

## The Oaxaca-Blinder Decomposition Procedure

Consider two groups, *wp* (working poor) and *np* (working non-poor), an outcome variable *Y* denoting log of real earnings, and a set of predictors denoted by the vector *X* which are exogenous characteristics or endowments that determine earnings. Then, the earnings functions for the working poor and working non-poor would be as follows:

$$Y_{wp} = \alpha_{wp} + \beta_{wp} X_{wp} + \varepsilon_{wp},$$
$$Y_{np} = \alpha_{np} + \beta_{np} X_{np} + \varepsilon_{np}, \qquad (1)$$

where $\alpha_{wp}$ and $\alpha_{np}$ are the intercepts, $\beta_{wp}$ and $\beta_{np}$ contain slope parameters, and $\varepsilon_{wp}$ and $\varepsilon_{np}$ are stochastic error terms with means of zero. The mean earnings differential can then be expressed as the difference in the linear prediction at the group-specific means of the regressors, that is:

$$\bar{Y}_{np} - \bar{Y}_{wp} = [(\bar{X}_{np} - \bar{X}_{wp})\hat{\beta}_{*}] + [\bar{X}_{wp}(\hat{\beta}_{*} - \hat{\beta}_{wp})]. \qquad (2)$$

The first term of equation (2) denotes the part of the differential in average log of real earnings between the poor and non-poor due to differences in group characteristics, the 'explained' component. The second term denotes the part of the differential due to differences in the returns to these characteristics between the two groups and also to the returns to unobserved characteristics - that is the 'unexplained' component. The term is some nondiscriminatory coefficients vector that is used to evaluate the differences in the explanatory variables of endowments included in the model. This is in contrast to the usual deployment of the decomposition procedure in the discrimination literature, which assumes that discrimination is directed against one group rather than the other, and so measures the expected change in the log of real wages or earnings of one group, if they obtained the returns to group endowments enjoyed by the other group. In the present comparison of the earnings of the poor and non-poor, there is no specific reason to assume that the returns to productive endowments obtained by one or the other group are non-discriminating. Moreover, economists have argued that the undervaluation of one group comes along with an overvaluation of the other (Cotton 1988). Different solutions to this problem have been proposed. Reimers (1983) advocated the use of the average coefficients over both groups as an estimate for the non-discriminatory parameter vector. Similarly, Cotton (1988) advised to weight the coefficients by the group sizes. On the other hand, Neumark (1988) proposed the usage of the coefficients from a pooled regression over both groups as an estimate for . However, Jann (2008) shows that this may inappropriately transfer some of the unexplained part of the differential to the explained component of the pooled model. To avoid such a distortion of the decomposition results, Jann (2008) suggests that a group indicator is included in the pooled model as an additional covariate. We follow his recommended procedure in the earnings gap decomposition analysis, and apply his user written programme Oaxaca.ado for Stata to implement it (see Jann 2008 for details).

However, the standard Oaxaca decomposition suffers from an identification problem. That is, if one uses dummy variables, then the detailed coefficients effect or unexplained effect attributed to the dummy variables changes according to which category is designated as the omitted group. The intuitive solution to this is to obtain estimates of the explained (characteristics) and unexplained (coefficients) components for every possible specification of the reference groups and take the average of the estimates of the two effects with various reference groups as the "true" contributions of the individual variables to income differentials. This is a cumbersome process involving the running of a series of income generating equations with different combinations of reference groups. But Yun (2005) has shown that the same result may be obtained more easily by simply estimating just one regression equation with any choice of omitted reference category for groups of dummy variables, and then expressing the coefficients on the individual dummy variables of a set, as deviations of each coefficient obtained from the regression from the set's mean. In this way the sum of the coefficients on a group of dummy variables is always zero and there is no identification problem arising from the choice of reference groups.

# Statistical Appendix

## Table 0.1: Distribution of population by age, sex and poverty status, national poverty line

| | Total population | | | National poverty line | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Poor | | | Non-poor | | |
| | MF | M | F | MF | M | F | MF | M | F |
| 0-4 | 1537052 | 787710 | 749343 | 280885 | 141955 | 138930 | 1256167 | 645755 | 610413 |
| 5-9 | 1545060 | 767645 | 777415 | 304767 | 150721 | 154047 | 1240293 | 616924 | 623368 |
| 10-14 | 1617012 | 811300 | 805712 | 336815 | 161421 | 175394 | 1280197 | 649879 | 630317 |
| 15-19 | 1620268 | 805411 | 814858 | 275982 | 138824 | 137158 | 1344287 | 666587 | 677700 |
| 20-24 | 1419966 | 682605 | 737361 | 194821 | 97551 | 97270 | 1225144 | 585054 | 640090 |
| 25-29 | 1413491 | 661052 | 752440 | 179857 | 81983 | 97874 | 1233634 | 579069 | 654566 |
| 30-34 | 1265988 | 597872 | 668117 | 164062 | 75044 | 89017 | 1101926 | 522827 | 579099 |
| 35-39 | 1281738 | 594733 | 687005 | 189831 | 91073 | 98758 | 1091907 | 503660 | 588247 |
| 40-44 | 1270724 | 583239 | 687486 | 188530 | 92311 | 96219 | 1082194 | 490928 | 591266 |
| 45-49 | 1266727 | 611541 | 655186 | 165696 | 86034 | 79663 | 1101030 | 525507 | 575523 |
| 50-54 | 1127937 | 540547 | 587390 | 136421 | 65049 | 71372 | 991516 | 475498 | 516019 |
| 55-59 | 961957 | 450467 | 511489 | 110138 | 49614 | 60523 | 851819 | 400853 | 450966 |
| 60-64 | 695921 | 318127 | 377794 | 84329 | 38296 | 46033 | 611591 | 279830 | 331761 |
| 65-69 | 503909 | 240154 | 263755 | 64679 | 27880 | 36798 | 439231 | 212274 | 226957 |
| 70+ | 872016 | 364118 | 507898 | 129560 | 51926 | 77634 | 742456 | 312192 | 430264 |
| Total | 18399766 | 8816519 | 9583247 | 2806374 | 1349683 | 1456691 | 15593392 | 7466836 | 8126556 |

## Table 0.2: Distribution of employed population by age, sex and poverty status, national poverty line

| | Total population | | | National poverty line | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Poor | | | Non-poor | | |
| | MF | M | F | MF | M | F | MF | M | F |
| 10-14 | 3215 | 2466 | 749 | 12638 | 5688 | 6950 | 1601159 | 803146 | 798013 |
| 15-19 | 189028 | 128796 | 60232 | 230140 | 131490 | 98651 | 1201100 | 545125 | 655976 |
| 20-24 | 634115 | 435133 | 198983 | 317619 | 142567 | 175053 | 468231 | 104906 | 363325 |
| 25-29 | 806098 | 567965 | 238133 | 164321 | 66493 | 97828 | 443072 | 26594 | 416478 |
| 30-34 | 774837 | 552459 | 222378 | 65373 | 26158 | 39215 | 425778 | 19254 | 406523 |
| 35-39 | 825138 | 563817 | 261321 | 39110 | 16455 | 22654 | 417491 | 14460 | 403030 |
| 40-44 | 854619 | 553039 | 301579 | 27626 | 11108 | 16518 | 388480 | 19092 | 369388 |
| 45-49 | 843483 | 569634 | 273849 | 31447 | 14050 | 17398 | 391796 | 27857 | 363939 |
| 50-54 | 709124 | 484184 | 224940 | 27602 | 12954 | 14648 | 391211 | 43408 | 347803 |
| 55-59 | 511174 | 355695 | 155479 | 24169 | 14615 | 9554 | 426614 | 80158 | 346456 |
| 60-64 | 265187 | 197095 | 68093 | 12918 | 5373 | 7545 | 417815 | 115659 | 302157 |
| 65-69 | 149420 | 115261 | 34159 | 10104 | 6109 | 3996 | 344385 | 118784 | 225601 |
| 70+ | 110947 | 84150 | 26797 | 8656 | 2585 | 6071 | 752414 | 277383 | 475030 |
| Total | 6676385 | 4609694 | 2066691 | 971723 | 455644 | 516079 | 7669546 | 2195826 | 5473720 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province*

## Table 0.3: Distribution of poor employed, unemployed and economically inactive population by age and sex, national poverty line

| | Poor - Economically active | | | | | | Poor- Economically inactive | | |
|---|---|---|---|---|---|---|---|---|---|
| | Employed | | | Unemployed | | | | | |
| | MF | M | F | MF | M | F | MF | M | F |
| 10-14 | 454 | 377 | 77 | 5876 | 2762 | 3113 | 330486 | 158282 | 172204 |
| 15-19 | 43583 | 31363 | 12220 | 57263 | 31255 | 26008 | 175136 | 76206 | 98930 |
| 20-24 | 91399 | 63915 | 27484 | 52083 | 22309 | 29774 | 51339 | 11327 | 40012 |
| 25-29 | 100461 | 68770 | 31691 | 17594 | 9259 | 8335 | 61803 | 3954 | 57848 |
| 30-34 | 98180 | 68421 | 29759 | 8091 | 3638 | 4453 | 57791 | 2985 | 54806 |
| 35-39 | 127916 | 85460 | 42455 | 4283 | 3302 | 980 | 57633 | 2310 | 55323 |
| 40-44 | 131265 | 87404 | 43861 | 6432 | 3035 | 3398 | 50833 | 1872 | 48961 |
| 45-49 | 112813 | 79819 | 32994 | 4880 | 2333 | 2547 | 48002 | 3881 | 44121 |
| 50-54 | 87912 | 56114 | 31798 | 4300 | 2338 | 1962 | 44210 | 6597 | 37613 |
| 55-59 | 56098 | 38203 | 17895 | 2306 | 1229 | 1077 | 51734 | 10182 | 41551 |
| 60-64 | 32282 | 23867 | 8415 | 770 | 439 | 331 | 51277 | 13990 | 37287 |
| 65-69 | 17279 | 11578 | 5701 | 119 | 119 | 0 | 47281 | 16183 | 31097 |
| 70+ | 13607 | 10412 | 3195 | 923 | 204 | 719 | 115031 | 41311 | 73720 |
| Total | 913247 | 625703 | 287544 | 164921 | 82223 | 82698 | 1142553 | 349081 | 793472 |

## Table 0.4: Distribution of non-poor employed, unemployed and economically inactive population by age and sex, national poverty line

| | Non-poor - Economically active | | | | | | Non-poor - Economically inactive | | |
|---|---|---|---|---|---|---|---|---|---|
| | Employed | | | Unemployed | | | | | |
| | MF | M | F | MF | M | F | MF | M | F |
| 10-14 | 2761 | 2089 | 672 | 6762 | 2926 | 3837 | 1270673 | 644864 | 625809 |
| 15-19 | 145445 | 97433 | 48012 | 172877 | 100235 | 72642 | 1025965 | 468919 | 557046 |
| 20-24 | 542716 | 371218 | 171498 | 265536 | 120258 | 145278 | 416892 | 93578 | 323314 |
| 25-29 | 705637 | 499195 | 206442 | 146727 | 57234 | 89493 | 381270 | 22640 | 358630 |
| 30-34 | 676658 | 484038 | 192620 | 57281 | 22520 | 34762 | 367987 | 16269 | 351718 |
| 35-39 | 697222 | 478357 | 218865 | 34827 | 13153 | 21674 | 359858 | 12150 | 347708 |
| 40-44 | 723354 | 465635 | 257718 | 21194 | 8073 | 13120 | 337647 | 17220 | 320428 |
| 45-49 | 730669 | 489815 | 240855 | 26567 | 11717 | 14850 | 343794 | 23976 | 319818 |
| 50-54 | 621212 | 428070 | 193142 | 23302 | 10616 | 12686 | 347002 | 36812 | 310190 |
| 55-59 | 455076 | 317492 | 137584 | 21863 | 13386 | 8477 | 374880 | 69975 | 304905 |
| 60-64 | 232906 | 173228 | 59678 | 12148 | 4934 | 7214 | 366538 | 101668 | 264870 |
| 65-69 | 132141 | 103683 | 28458 | 9986 | 5990 | 3996 | 297104 | 102601 | 194503 |
| 70+ | 97340 | 73738 | 23602 | 7733 | 2381 | 5352 | 637383 | 236073 | 401310 |
| Total | 5763137 | 3983991 | 1779147 | 806802 | 373421 | 433381 | 6526993 | 1846745 | 4680248 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province*

## Table 0.5: Distribution of employed population by industrial sector, sex and poverty status, national poverty line

| | Total | | | Poor | | | Non-poor | | |
|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F |
| Agriculture | 1839341 | 1157374 | 681967 | 387891 | 233234 | 154656 | 1451450 | 924139 | 527311 |
| Mining and quarrying | 84220 | 73669 | 10551 | 18330 | 14909 | 3421 | 65890 | 58759 | 7131 |
| Manufacturing | 1188054 | 659690 | 528363 | 139286 | 65912 | 73375 | 1048767 | 593778 | 454989 |
| Electricity gas and water | 7919 | 6925 | 994 | 0 | 0 | 0 | 7919 | 6925 | 994 |
| Construction | 455512 | 448871 | 6641 | 82144 | 81496 | 648 | 373367 | 367375 | 5992 |
| Wholesale and retail trade | 867624 | 658750 | 208874 | 70579 | 55259 | 15320 | 797045 | 603491 | 193554 |
| Hotels and restaurants | 119719 | 92221 | 27498 | 10157 | 9036 | 1121 | 109562 | 83185 | 26378 |
| Transport, storage and communications | 414141 | 392868 | 21272 | 28199 | 26748 | 1451 | 385942 | 366121 | 19821 |
| Financial intermediation | 826550 | 544329 | 282221 | 21137 | 16874 | 4263 | 805413 | 527454 | 277958 |
| Public administration | 174441 | 61223 | 113218 | 4071 | 2041 | 2030 | 170369 | 59181 | 111188 |
| Education | 71998 | 33313 | 38685 | 2849 | 1886 | 963 | 69149 | 31427 | 37722 |
| Health and social work | 536446 | 395117 | 141329 | 137687 | 107866 | 29821 | 398759 | 287251 | 111507 |
| Other services | 1696 | 766 | 930 | 29 | 0 | 29 | 1668 | 766 | 901 |
| Not classified | 88726 | 84578 | 4148 | 10889 | 10442 | 447 | 77837 | 74136 | 3701 |
| Total | 6676385 | 4609694 | 2066691 | 913247 | 625703 | 287544 | 5763137 | 3983991 | 1779147 |

## Table 0.6: Distribution of employed population by occupation, sex and poverty status, national poverty line

| | Total | | | Poor employed | | | Non-poor employed | | |
|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F |
| Managerial | 321119 | 243138 | 77982 | 10682 | 7873 | 2809 | 310437 | 235264 | 75173 |
| Professional | 394496 | 153854 | 240641 | 6703 | 4245 | 2458 | 387793 | 149609 | 238184 |
| Technical | 797518 | 582811 | 214707 | 33468 | 25294 | 8174 | 764050 | 557517 | 206533 |
| Clerical | 252376 | 132101 | 120274 | 5410 | 4362 | 1048 | 246966 | 127739 | 119227 |
| Service | 416151 | 324418 | 91733 | 37665 | 30317 | 7348 | 378487 | 294101 | 84385 |
| Agricultural | 1517684 | 936362 | 581322 | 293416 | 164739 | 128677 | 1224269 | 771623 | 452645 |
| Production | 1542396 | 1143358 | 399038 | 183986 | 125429 | 58556 | 1358411 | 1017929 | 340482 |
| Elementary | 1403885 | 1064224 | 339661 | 341202 | 262726 | 78475 | 1062683 | 801498 | 261186 |
| Total | 6645626 | 4580268 | 2065358 | 912530 | 624986 | 287544 | 5733095 | 3955282 | 1777814 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province*

## Table 0.7: Distribution of employed population by employment status, sex and poverty, national poverty line

| | Total | | | Poor | | | Non-poor | | |
|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F |
| Regular salaried/ wage employees | 4224772 | 2902898 | 1321874 | 633129 | 439329 | 193800 | 3591643 | 2463569 | 1128074 |
| Employer | 135765 | 118149 | 17615 | 6081 | 5517 | 564 | 129684 | 112633 | 17051 |
| Own-account workers | 1840735 | 1429029 | 411706 | 200305 | 159314 | 40990 | 1640431 | 1269715 | 370716 |
| Contributing (unpaid) family workers | 475113 | 159617 | 315495 | 73733 | 21543 | 52189 | 401380 | 138074 | 263306 |
| Total | 6676385 | 4609694 | 2066691 | 913247 | 625703 | 287544 | 5763137 | 3983991 | 1779147 |

## Table 0.8: Distribution of working age population (15+) by education, sex and poverty status, national poverty line

| | Total Working Age | | | Poor Working Age | | | Non-poor Working Age | | |
|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F |
| Primary or less | 3619109 | 1616058 | 2003051 | 846242 | 389134 | 457108 | 2772867 | 1226924 | 1545944 |
| Junior secondary | 1764219 | 945812 | 818407 | 297965 | 163211 | 134753 | 1466254 | 782600 | 683654 |
| Senior secondary | 3959580 | 1924146 | 2035434 | 548833 | 259266 | 289567 | 3410747 | 1664880 | 1745867 |
| O levels | 2553216 | 1194738 | 1358478 | 145599 | 65173 | 80426 | 2407618 | 1129566 | 1278052 |
| A levels | 1520208 | 630974 | 889233 | 41138 | 17434 | 23704 | 1479069 | 613541 | 865529 |
| Graduate | 272799 | 133441 | 139358 | 608 | 414 | 193 | 272192 | 133027 | 139165 |
| Total | 13689131 | 6445169 | 7243962 | 1880384 | 894632 | 985752 | 11808747 | 5550537 | 6258210 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province*

## Table 0.9: Distribution of working age employed population (15+) by education, sex and poverty status, national poverty line

| | Total Working Age Employed | | | Poor Working Age Employed | | | Non-poor Working Age Employed | | |
|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F |
| Primary or less | 1785747 | 1196539 | 589208 | 443937 | 291035 | 152902 | 1341811 | 905504 | 436307 |
| Junior secondary | 940761 | 728932 | 211829 | 169183 | 123237 | 45946 | 771578 | 605695 | 165883 |
| Senior secondary | 1793270 | 1322652 | 470618 | 227023 | 160036 | 66987 | 1566247 | 1162616 | 403631 |
| O levels | 1107210 | 782030 | 325180 | 55845 | 40614 | 15231 | 1051365 | 741416 | 309949 |
| A levels | 827426 | 460414 | 367012 | 15801 | 9502 | 6299 | 811625 | 450912 | 360712 |
| Graduate | 215959 | 114344 | 101614 | 516 | 414 | 102 | 215442 | 113930 | 101512 |
| Total | 6670373 | 4604911 | 2065462 | 912306 | 624838 | 287468 | 5758068 | 3980073 | 1777995 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province*

Table 0.10: Distribution of population by age, sex and poverty status, $1.25 and $2.00 poverty lines

| | Total population | | | Poor population, $1.25 per day poverty line | | | | | | Poor population, $2.00 per day poverty line | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Below $1.25 | | | Above $1.25 | | | Below $2.00 | | | Above $2.00 | | |
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| 0-4 | 1537052 | 787710 | 749343 | 141228 | 70004 | 71224 | 1395824 | 717706 | 678119 | 522496 | 264729 | 257767 | 1014556 | 522980 | 491576 |
| 5-9 | 1545060 | 767645 | 777415 | 162320 | 77519 | 84801 | 1382739 | 690126 | 692614 | 546045 | 262330 | 283715 | 999014 | 505315 | 493699 |
| 10-14 | 1617012 | 811300 | 805712 | 165608 | 81246 | 84362 | 1451404 | 730054 | 721350 | 616764 | 298981 | 317784 | 1000248 | 512320 | 487928 |
| 15-19 | 1620268 | 805411 | 814858 | 133694 | 70469 | 63225 | 1486575 | 734942 | 751633 | 554480 | 277580 | 276900 | 1065789 | 527831 | 537957 |
| 20-24 | 1419966 | 682605 | 737361 | 91495 | 43715 | 47780 | 1328471 | 638890 | 689581 | 415782 | 203286 | 212496 | 1004184 | 479319 | 524864 |
| 25-29 | 1413491 | 661052 | 752440 | 81296 | 37708 | 43589 | 1332195 | 623344 | 708851 | 380937 | 180732 | 200206 | 1032554 | 480320 | 552234 |
| 30-34 | 1265988 | 597872 | 668117 | 79968 | 36125 | 43842 | 1186020 | 561746 | 624274 | 342691 | 156256 | 186435 | 923297 | 441615 | 481682 |
| 35-39 | 1281738 | 594733 | 687005 | 90166 | 44729 | 45437 | 1191572 | 550004 | 641569 | 365527 | 174119 | 191407 | 916211 | 420613 | 495598 |
| 40-44 | 1270724 | 583239 | 687486 | 83998 | 41981 | 42017 | 1186726 | 541258 | 645468 | 385164 | 180411 | 204752 | 885561 | 402827 | 482733 |
| 45-49 | 1266727 | 611541 | 655186 | 76071 | 40271 | 35799 | 1190656 | 571269 | 619387 | 344615 | 172001 | 172613 | 922112 | 439539 | 482572 |
| 50-54 | 1127937 | 540547 | 587390 | 55984 | 25219 | 30765 | 1071954 | 515328 | 556626 | 287961 | 138584 | 149377 | 839976 | 401963 | 438013 |
| 55-59 | 961957 | 450467 | 511489 | 49991 | 21031 | 28960 | 911966 | 429436 | 482530 | 238473 | 110425 | 128048 | 723483 | 340043 | 383441 |
| 60-64 | 695921 | 318127 | 377794 | 44975 | 20995 | 23979 | 650946 | 297131 | 353815 | 173917 | 76703 | 97213 | 522004 | 241423 | 280581 |
| 65-69 | 503909 | 240154 | 263755 | 27309 | 11547 | 15761 | 476601 | 228607 | 247994 | 133856 | 60948 | 72908 | 370053 | 179207 | 190847 |
| 70+ | 872016 | 364118 | 507898 | 67756 | 26788 | 40968 | 804260 | 337330 | 466930 | 260937 | 107733 | 153205 | 611079 | 256385 | 354694 |
| Total | 18399766 | 8816519 | 9583247 | 1351857 | 649347 | 702510 | 17047909 | 8167171 | 8880738 | 5569645 | 2664817 | 2904828 | 12830121 | 6151701 | 6678419 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province*

Table 0.11: Distribution of population by age, sex and labour force status

| | Labour force status, total population | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Employed | | | Unemployed | | | Economically active | | | Economically inactive | | |
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| 10-14 | 3215 | 2466 | 749 | 12638 | 5688 | 6950 | 15853 | 8154 | 7699 | 1601159 | 803146 | 798013 |
| 15-19 | 189028 | 128796 | 60232 | 230140 | 131490 | 98651 | 419168 | 260286 | 158882 | 1201100 | 545125 | 655976 |
| 20-24 | 634115 | 435133 | 198983 | 317619 | 142567 | 175053 | 951735 | 577699 | 374035 | 468231 | 104906 | 363325 |
| 25-29 | 806098 | 567965 | 238133 | 164321 | 66493 | 97828 | 970419 | 634458 | 335961 | 443072 | 26594 | 416478 |
| 30-34 | 774837 | 552459 | 222378 | 65373 | 26158 | 39215 | 840210 | 578617 | 261593 | 425778 | 19254 | 406523 |
| 35-39 | 825138 | 563817 | 261321 | 39110 | 16455 | 22654 | 864247 | 580272 | 283975 | 417491 | 14460 | 403030 |
| 40-44 | 854619 | 553039 | 301579 | 27626 | 11108 | 16518 | 882244 | 564147 | 318097 | 388480 | 19092 | 369388 |
| 45-49 | 843483 | 569634 | 273849 | 31447 | 14050 | 17398 | 874930 | 583684 | 291247 | 391796 | 27857 | 363939 |
| 50-54 | 709124 | 484184 | 224940 | 27602 | 12954 | 14648 | 736726 | 497138 | 239587 | 391211 | 43408 | 347803 |
| 55-59 | 511174 | 355695 | 155479 | 24169 | 14615 | 9554 | 535343 | 370310 | 165033 | 426614 | 80158 | 346456 |
| 60-64 | 265187 | 197095 | 68093 | 12918 | 5373 | 7545 | 278105 | 202468 | 75637 | 417815 | 115659 | 302157 |
| 65-69 | 149420 | 115261 | 34159 | 10104 | 6109 | 3996 | 159524 | 121370 | 38155 | 344385 | 118784 | 225601 |
| 70+ | 110947 | 84150 | 26797 | 8656 | 2585 | 6071 | 119602 | 86734 | 32868 | 752414 | 277383 | 475030 |
| Total | 6676385 | 4609694 | 2066691 | 971723 | 455644 | 516079 | 7648108 | 5065338 | 2582770 | 7669546 | 2195826 | 5473720 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 0.12: Distribution of employed, unemployed and economically inactive population by age, sex and poverty status, $1.25 poverty line

| | Below $1.25 - Economically Active | | | | | | Below $1.25- | | | Above $1.25 - Economically Active | | | | | | Above $1.25 - | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Employed | | | Unemployed | | | Economically inactive | | | Employed | | | Unemployed | | | Economically inactive | | |
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| 10-14 | 77 | 0 | 77 | 4117 | 1448 | 2669 | 161415 | 79798 | 81616 | 3138 | 2466 | 672 | 8521 | 4240 | 4281 | 1439744 | 723348 | 716397 |
| 15-19 | 20011 | 13899 | 6112 | 30074 | 17084 | 12990 | 83609 | 39486 | 44123 | 169017 | 114897 | 54120 | 200067 | 114406 | 85661 | 1117491 | 505639 | 611852 |
| 20-24 | 42014 | 28111 | 13903 | 24759 | 9091 | 15667 | 24723 | 6513 | 18210 | 592102 | 407022 | 185080 | 292861 | 133476 | 159385 | 443508 | 98393 | 345115 |
| 25-29 | 48371 | 32117 | 16254 | 7049 | 3980 | 3069 | 25876 | 1611 | 24266 | 757727 | 535848 | 221879 | 157272 | 62513 | 94759 | 417196 | 24984 | 392213 |
| 30-34 | 48463 | 33725 | 14738 | 2535 | 756 | 1779 | 28970 | 1644 | 27325 | 726374 | 518734 | 207640 | 62838 | 25402 | 37436 | 396808 | 17610 | 379198 |
| 35-39 | 59171 | 41818 | 17353 | 2501 | 2339 | 162 | 28494 | 572 | 27922 | 765966 | 521999 | 243967 | 36609 | 14117 | 22492 | 388997 | 13888 | 375109 |
| 40-44 | 59338 | 39988 | 19350 | 2370 | 1179 | 1190 | 22291 | 813 | 21477 | 795281 | 513051 | 282230 | 25256 | 9929 | 15328 | 366189 | 18278 | 347911 |
| 45-49 | 51839 | 35835 | 16004 | 3137 | 2333 | 804 | 21095 | 2103 | 18991 | 791644 | 533799 | 257845 | 28311 | 11717 | 16594 | 370701 | 25753 | 344948 |
| 50-54 | 35753 | 20509 | 15244 | 1835 | 1012 | 823 | 18395 | 3697 | 14698 | 673370 | 463675 | 209696 | 25767 | 11942 | 13825 | 372816 | 39711 | 333105 |
| 55-59 | 26405 | 16708 | 9697 | 2009 | 1047 | 962 | 21577 | 3277 | 18300 | 484769 | 338987 | 145782 | 22160 | 13568 | 8592 | 405037 | 76881 | 328156 |
| 60-64 | 18744 | 15351 | 3394 | 571 | 311 | 260 | 25659 | 5334 | 20326 | 246443 | 181744 | 64699 | 12347 | 5062 | 7285 | 392156 | 110325 | 281831 |
| 65-69 | 6792 | 4785 | 2007 | 119 | 119 | 0 | 20398 | 6643 | 13754 | 142628 | 110476 | 32152 | 9986 | 5990 | 3996 | 323987 | 112141 | 211846 |
| 70+ | 6962 | 4866 | 2096 | 270 | 24 | 246 | 60524 | 21898 | 38626 | 103985 | 79283 | 24701 | 8386 | 2561 | 5825 | 691890 | 255486 | 436404 |
| Total | 423940 | 287713 | 136227 | 81344 | 40722 | 40621 | 543024 | 173389 | 369635 | 6252445 | 4321981 | 1930463 | 890379 | 414922 | 475457 | 7126522 | 2022437 | 5104085 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 0.13: Distribution of employed, unemployed and economically inactive population by age, sex and poverty status, $2.00 poverty lines

| | Below $2.00 - Economically Active | | | | | | Below $2 - | | | Above $2.00 - Economically Active | | | | | | Above $2.00 - | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Employed | | | Unemployed | | | Economically inactive | | | Employed | | | Unemployed | | | Economically inactive | | |
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| 10-14 | 1207 | 1067 | 140 | 6792 | 3208 | 3585 | 608765 | 294706 | 314059 | 2008 | 1399 | 609 | 5845 | 2480 | 3365 | 992394 | 508440 | 483954 |
| 15-19 | 75275 | 53371 | 21903 | 115044 | 66773 | 48271 | 364162 | 157435 | 206726 | 113753 | 75425 | 38328 | 115097 | 64717 | 50380 | 836939 | 387690 | 449249 |
| 20-24 | 189283 | 131628 | 57655 | 104919 | 47691 | 57228 | 121580 | 23967 | 97613 | 444832 | 303505 | 141327 | 212701 | 94876 | 117825 | 346651 | 80938 | 265712 |
| 25-29 | 218218 | 157154 | 61064 | 37433 | 16859 | 20574 | 125287 | 6719 | 118568 | 587880 | 410811 | 177069 | 126888 | 49634 | 77255 | 317785 | 19875 | 297910 |
| 30-34 | 201168 | 142197 | 58971 | 20671 | 8169 | 12502 | 120853 | 5890 | 114962 | 573670 | 410262 | 163408 | 44702 | 17989 | 26712 | 304925 | 13364 | 291561 |
| 35-39 | 240819 | 165213 | 75606 | 9235 | 3952 | 5283 | 115473 | 4955 | 110518 | 584319 | 398605 | 185714 | 29875 | 12504 | 17371 | 302017 | 9505 | 292512 |
| 40-44 | 259028 | 169043 | 89984 | 10152 | 5252 | 4901 | 115984 | 6116 | 109868 | 595591 | 383996 | 211595 | 17474 | 5856 | 11617 | 272496 | 12975 | 259521 |
| 45-49 | 233217 | 160712 | 72506 | 9082 | 3673 | 5409 | 102316 | 7617 | 94699 | 610265 | 408922 | 201343 | 22366 | 10377 | 11989 | 289481 | 20240 | 269240 |
| 50-54 | 182104 | 121028 | 61077 | 8560 | 4470 | 4090 | 97297 | 13086 | 84210 | 527019 | 363156 | 163863 | 19042 | 8485 | 10557 | 293914 | 30322 | 263592 |
| 55-59 | 127889 | 86496 | 41393 | 4942 | 3099 | 1844 | 105642 | 20831 | 84811 | 383285 | 269199 | 114086 | 19226 | 11516 | 7710 | 320972 | 59327 | 261645 |
| 60-64 | 69596 | 48951 | 20644 | 2415 | 487 | 1928 | 101906 | 27265 | 74641 | 195592 | 148143 | 47448 | 10502 | 4886 | 5616 | 315910 | 88394 | 227516 |
| 65-69 | 38661 | 27351 | 11310 | 1029 | 119 | 910 | 94166 | 33478 | 60689 | 110759 | 87910 | 22849 | 9076 | 5990 | 3086 | 250219 | 85307 | 164912 |
| 70+ | 33940 | 24753 | 9187 | 2223 | 1222 | 1001 | 224775 | 81758 | 143017 | 77007 | 59396 | 17610 | 6433 | 1363 | 5070 | 527639 | 195626 | 332013 |
| Total | 1870404 | 1288963 | 581440 | 332496 | 164971 | 167525 | 2298204 | 683823 | 1614381 | 4805981 | 3320731 | 1485250 | 639227 | 290673 | 348554 | 5371342 | 1512003 | 3859339 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 0.14: Distribution of employed by industry, sex and poverty status, $1.25 and $2.00 poverty lines

| | Total | | | Below $1.25 Employed | | | Above $1.25 Employed | | | Below $2.00 Employed | | | Above $2.00 Employed | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| Agriculture | 1839341 | 1157374 | 681967 | 182261 | 108791 | 73470 | 1657080 | 1048583 | 608497 | 764632 | 466157 | 298475 | 1074708 | 691216 | 383492 |
| Mining and quarrying | 84220 | 73669 | 10551 | 9552 | 7998 | 1553 | 74668 | 65670 | 8998 | 35833 | 30697 | 5136 | 48387 | 42971 | 5415 |
| Manufacturing | 1188054 | 659690 | 528363 | 57212 | 25723 | 31489 | 1130842 | 633968 | 496874 | 304166 | 150250 | 153916 | 883888 | 509440 | 374448 |
| Electricity gas and water | 7919 | 6925 | 994 | 0 | 0 | 0 | 7919 | 6925 | 994 | 1231 | 1231 | 0 | 6688 | 5694 | 994 |
| Construction | 455512 | 448871 | 6641 | 37370 | 36778 | 592 | 418142 | 412093 | 6048 | 156651 | 154885 | 1767 | 298860 | 293986 | 4874 |
| Wholesale and retail trade | 867624 | 658750 | 208874 | 25311 | 19592 | 5718 | 842313 | 639158 | 203155 | 172728 | 134374 | 38354 | 694895 | 524376 | 170519 |
| Hotels and restaurants | 119719 | 92221 | 27498 | 5165 | 4044 | 1121 | 114554 | 88177 | 26378 | 21101 | 16817 | 4284 | 98618 | 75403 | 23215 |
| Transport, storage and communications | 414141 | 392868 | 21272 | 11533 | 11315 | 218 | 402608 | 381554 | 21054 | 67917 | 65591 | 2326 | 346223 | 327277 | 18946 |
| Financial intermediation | 826550 | 544329 | 282221 | 8880 | 6626 | 2254 | 817670 | 537703 | 279967 | 64376 | 46725 | 17652 | 762174 | 497604 | 264569 |
| Public administration | 174441 | 61223 | 113218 | 777 | 135 | 641 | 173664 | 61087 | 112577 | 7365 | 2686 | 4679 | 167075 | 58537 | 108539 |
| Education | 71998 | 33313 | 38685 | 1544 | 1117 | 427 | 70454 | 32196 | 38258 | 6347 | 3234 | 3113 | 65651 | 30078 | 35573 |
| Health and socialwork | 536446 | 395117 | 141329 | 79575 | 61031 | 18544 | 456871 | 334086 | 122785 | 242069 | 190947 | 51122 | 294377 | 204170 | 90207 |
| Other services | 1696 | 766 | 930 | 29 | 0 | 29 | 1668 | 766 | 901 | 134 | 105 | 29 | 1563 | 662 | 901 |
| Non classifiable | 88726 | 84578 | 4148 | 4734 | 4563 | 171 | 83993 | 80015 | 3978 | 25852 | 25263 | 588 | 62875 | 59315 | 3560 |
| Total | 6676385 | 4609694 | 2066691 | 423940 | 287713 | 136227 | 6252445 | 4321981 | 1930463 | 1870404 | 1288963 | 581440 | 4805981 | 3320731 | 1485250 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 0.15: Distribution of employed by occupation, sex and poverty status, $1.25 and $2.00 poverty lines

| | Total | | | Below $1.25 Employed | | | Above $1.25 Employed | | | Below $2.00 Employed | | | Above $2.00 Employed | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| Managerial | 321119.5 | 243138 | 77981.7 | 4929.82 | 3420.1 | 1509.7 | 316189.6 | 239717.7 | 76472 | 27282.9 | 19135.1 | 8147.9 | 293837 | 224003 | 69833.8 |
| Professional | 394495.5 | 153854 | 240641 | 1891.3 | 1250 | 641.3 | 392604.2 | 152604.3 | 240000 | 17622.6 | 8721.89 | 8900.7 | 376873 | 145132 | 231741 |
| Technical | 797518.2 | 582811 | 214707 | 10936.3 | 8175.2 | 2761.1 | 786581.8 | 574636.3 | 211946 | 90963.4 | 67294.7 | 23669 | 706555 | 515517 | 191038 |
| Clerical | 252375.7 | 132101 | 120274 | 1987.78 | 1619.7 | 368.11 | 250387.9 | 130481.6 | 119906 | 20443.5 | 11321.3 | 9122.2 | 231932 | 120780 | 111152 |
| Service | 416151.4 | 324418 | 91733.1 | 13650.1 | 11071 | 2579.1 | 402501.2 | 313347.2 | 89154 | 83419.6 | 66274.7 | 17145 | 332732 | 258144 | 74588.2 |
| Agricultural | 1517684 | 936362 | 581322 | 134124 | 75268 | 58856 | 1383560 | 861094.4 | 522466 | 589009 | 341212 | 247797 | 928675 | 595150 | 333525 |
| Production | 1542396 | 1143358 | 399038 | 78126.4 | 52401 | 25725 | 1464270 | 1090957 | 373313 | 408496 | 286449 | 122047 | 1133900 | 856909 | 276991 |
| Elementary | 1403885 | 1064224 | 339661 | 177868 | 134081 | 43787 | 1226017 | 930143.3 | 295874 | 630075 | 485463 | 144612 | 773810 | 578761 | 195049 |
| Total | 6645626 | 4580268 | 2065358 | 423513 | 287286 | 136227 | 6222112 | 4292982 | 1929131 | 1867313 | 1285872 | 581440 | 4778313 | 3294395 | 1483918 |

Table 0.16: Distribution of employed by employment status, sex and poverty status, $1.25 and $2.00 poverty lines

| | Total | | | Below $1.25 Employed | | | Above $1.25 Employed | | | Below $2.00 Employed | | | Above $2.00 Employed | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| Regular salaried/ wage employees | 4224772 | 2902898 | 1321874 | 297396 | 203040 | 94356 | 3927376 | 2699858 | 1227519 | 1255460 | 876657 | 378803 | 2969312 | 2026241 | 943071 |
| Employer | 135765 | 118149 | 17615.5 | 2933.31 | 2495.7 | 437.62 | 132831.3 | 115653.5 | 17177.9 | 13254.8 | 12483.2 | 771.6 | 122510 | 105666 | 16843.9 |
| Own-account workers | 1840735 | 1429029 | 411706 | 89464 | 72055 | 17409 | 1751271 | 1356974 | 394298 | 456399 | 357416 | 98982 | 1384337 | 1071613 | 312724 |
| Contributing (unpaid) family workers | 475113 | 159617 | 315495 | 34147.3 | 10122 | 24026 | 440965.5 | 149496 | 291470 | 145290 | 42406.6 | 102883 | 329823 | 117211 | 212612 |
| Total | 6676385 | 4609694 | 2066691 | 423940 | 287713 | 136227 | 6252445 | 4321981 | 1930463 | 1870404 | 1288963 | 581440 | 4805981 | 3320731 | 1485250 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*

Table 0.17: Distribution of working age population (15+) by education, sex and poverty status, $1.25 and $2.00 poverty lines

| | Total Working Age | | | Below $1.25 Working Age | | | Above $1.25 Working Age | | | Below $2.00 Working Age | | | Above $2.00 Working Age | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| Primary or less | 3619109 | 1616058 | 2003051 | 416085 | 192033 | 224052 | 3203025 | 1424025 | 1779000 | 1571741 | 717930 | 853811 | 2047368 | 898128 | 1149241 |
| Junior secondary | 1764219 | 945812 | 818407 | 137095 | 75172 | 61923 | 1627123 | 870639.5 | 756484 | 581971 | 316335 | 265635 | 1182248 | 629476 | 552772 |
| Senior secondary | 3959580 | 1924146 | 2035434 | 256941 | 123291 | 133649 | 3702640 | 1800855 | 1901785 | 1211275 | 584142 | 627133 | 2748306 | 1340004 | 1408302 |
| O levels | 2553216 | 1194738 | 1358478 | 57192.2 | 25017 | 32176 | 2496024 | 1169722 | 1326302 | 382572 | 167843 | 214729 | 2170644 | 1026895 | 1143749 |
| A levels | 1520208 | 630974 | 889233 | 13788 | 4980.2 | 8807.8 | 1506420 | 625994.2 | 880425 | 126120 | 48864.6 | 77256 | 1394087 | 582110 | 811977 |
| Graduate | 272799.4 | 133441 | 139358 | 102.09 | 0 | 102.09 | 272697.4 | 133441.1 | 139256 | 5432.78 | 1771.88 | 3660.9 | 267367 | 131669 | 135697 |
| Total | 13689131 | 6445169 | 7243962 | 881203 | 420493 | 460710 | 12807929 | 6024676 | 6783252 | 3879111 | 1836887 | 2E+06 | 9810020 | 4608282 | 5201738 |

Table 0.18: Distribution of employed population (15+) by education, sex and poverty status, $1.25 and $2.00 poverty lines

| | Total | | | Below $1.25 Employed | | | Above $1.25 Employed | | | Below $2.00 Employed | | | Above $2.00 Employed | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MF | M | F | MF | M | F | MF | M | F | MF | M | F | MF | M | F |
| Primary or less | 1785747 | 1196539 | 589208 | 217331 | 142747 | 74584 | 1568417 | 1053792 | 514624 | 817228 | 533304 | 283924 | 968520 | 663235 | 305285 |
| Junior secondary | 940761.2 | 728932 | 211829 | 76198.3 | 56492 | 19707 | 864562.9 | 672440.3 | 192123 | 328473 | 246032 | 82442 | 612288 | 482900 | 129388 |
| Senior secondary | 1793270 | 1322652 | 470618 | 104366 | 71888 | 32478 | 1688904 | 1250764 | 438140 | 520313 | 375472 | 144841 | 1272958 | 947180 | 325778 |
| O levels | 1107210 | 782030 | 325180 | 21280.7 | 14186 | 7094.5 | 1085929 | 767843.9 | 318086 | 146202 | 102114 | 44087 | 961008 | 679916 | 281093 |
| A levels | 827426 | 460414 | 367012 | 4585.68 | 2400.3 | 2185.4 | 822840.3 | 458014.1 | 364826 | 51887.1 | 27819.8 | 24067 | 775539 | 432595 | 342944 |
| Graduate | 215958.5 | 114344 | 101614 | 102.09 | 0 | 102.09 | 215856.4 | 114344.1 | 101512 | 3354.15 | 1771.88 | 1582.3 | 212604 | 112572 | 100032 |
| Total | 6670373 | 4604911 | 2065462 | 423863 | 287713 | 136151 | 6246510 | 4317198 | 1929311 | 1867457 | 1286514 | 580943 | 4802917 | 3318397 | 1484519 |

*Note: Data excludes Northern Province and Trincomalee District in Eastern Province.*