



**Understanding Children's Work**  
An Inter-Agency Research Cooperation Project

Understanding Children's Work Project Working Paper Series, September 2002

# Children's work in Zambia: a comparative study of survey instruments

N. H. Blunch  
A. Dar  
L. Guarcello  
S. Lyon  
A. Ritualo  
F. C. Rosati

March 2006



# **Children's work in Zambia: a comparative study of survey instruments**

**N. H. Blunch\***

**A. Dar\***

**L. Guarcello\*\***

**S. Lyon\*\***

**A. Ritualo\*\*\***

**F. C. Rosati\*\***

**Working Paper**

**September 2002**

Understanding Children's Work (UCW) Project

University of Rome "Tor Vergata"

Faculty of Economics

V. Columbia 2

00133 Rome Tor Vergata

Tel: +39 06.7259.5618

Fax: +39 06.2020.687

Email: [info@ucw-project.org](mailto:info@ucw-project.org)

As part of broader efforts toward durable solutions to child labor, the International Labour Organization (ILO), the United Nations Children's Fund (UNICEF), and the World Bank initiated the interagency Understanding Children's Work (UCW) project in December 2000. The project is guided by the Oslo Agenda for Action, which laid out the priorities for the international community in the fight against child labor. Through a variety of data collection, research, and assessment activities, the UCW project is broadly directed toward improving understanding of child labor, its causes and effects, how it can be measured, and effective policies for addressing it. For further information, see the project website at [www.ucw-project.org](http://www.ucw-project.org).

This paper is part of the research carried out within UCW (Understanding Children's Work), a joint ILO, World Bank and UNICEF project. The views expressed here are those of the authors' and should not be attributed to the ILO, the World Bank, UNICEF or any of these agencies' member countries.

---

\* World Bank

\*\* Understanding Children's Work Project and University of Rome "Tor Vergata"

\*\*\* US Department of Labor

# **Children's work in Zambia: a comparative study of survey instruments**

**Working Paper  
September 2002**

## **ABSTRACT**

We analyse child work in Zambia applying two recent surveys, the LCMS 1998 (World Bank) and the SIMPOC 1999 (ILO). The analysis aims at contrasting and comparing findings on the incidence and characteristics of the two surveys. The extent to which the findings are survey-dependent is assessed and implications for the design and implementation for future surveys for the analysis of child work is discussed.

# **Children's work in Zambia: a comparative study of survey instruments**

**Working Paper  
September 2002**

## **CONTENTS**

1. Introduction .....	1
2. Brief overview of the zambian economy.....	2
3. Description of the surveys .....	3
4. Measurement of children's activity status .....	4
5. Measurement of characteristics and conditions of child work .....	6
6. Measurement of the health impact of child work .....	9
7. Measurement of household and schooling expenditures .....	11
8. Measurement of correlates and determinants of child work and schooling .....	12
8.1 Descriptive analysis .....	12
8.2 Empirical analysis .....	16
9. Conclusions .....	17
References .....	18
Appendix A: Detailed descriptive tables .....	19
Appendix B: Variable definitons .....	26



## 1. INTRODUCTION

1. World Bank multi-purpose household surveys<sup>1</sup> and International Labour Organisation SIMPOC<sup>2</sup> surveys are particularly important instruments for generating information on child work in developing countries.<sup>3</sup> Datasets from these surveys, based on comprehensive interviews with a stratified sample of households, highlight links between child work and schooling, family structure, income levels, parental education, gender and a range of other factors with detail and clarity not found in most other common survey instruments.<sup>4</sup>

2. How do the results generated by the World Bank and ILO survey instruments compare? What are the relative strengths and weaknesses of each as a source of information on child work? And to what extent are the survey instruments complementary, or, alternatively, overlapping? These questions have important implications for the design and implementation of future surveys on child work, and for ensuring that the scarce resources available for research on child work are allocated efficiently.

3. Zambia provides a good opportunity to compare and contrast the ILO and World Bank survey instruments in a specific national context. There, a World Bank Priority Survey<sup>5</sup> and an ILO SIMPOC survey were conducted only one year apart – in 1998 and 1999, respectively – meaning that discrepancies in the survey findings are likely due to methodological differences rather than to longitudinal changes in the actual child work situation.

4. This paper looks specifically at the degree to which the findings on child work are consistent across the two Zambia surveys, and therefore have similar implications for policy. It represents part of broader efforts to strengthen child work survey instruments, and to improve research coordination in the field of child work.

5. The paper focuses on the 5-14 years age group. The upper bound of 14 years is consistent with the ILO Convention No. 138 on Minimum Age,<sup>6</sup> which states that the minimum age for admission to employment or work should not be less than 15 years (Art. 2.3).<sup>7</sup> The lower bound of five years is considered the minimum age at which children are physically able to perform work in most contexts.

6. The paper is structured as follows. The next section presents a brief overview of the Zambian economy, followed in section 3 with background information on the two surveys. Sections 4 to 7 then look at indicators in four areas critical to the understanding of the child work phenomenon: child activity status; work characteristics and conditions; the health impact of work; and household expenditures. For each, the two surveys are compared in terms of how key variables

---

<sup>1</sup> Principally, the Living Standards Measurement Study/Integrated Survey series and the Priority Survey series.

<sup>2</sup> Statistical Information and Monitoring Programme on Child Labour

<sup>3</sup> The UNICEF Multiple Indicator Cluster Survey (MICS) series is another key source of information on child labour. However, MICS data for Zambia is not currently available, and therefore inclusion of the MICS survey instrument in this comparative study will not be possible until a later date.

<sup>4</sup> Myers, W.E., 'Considering Child Labour: Changing terms, issues, and actors at the international level', *Childhood* 6(1), pp. 13-25.

<sup>5</sup> Entitled: 'Zambia Living Conditions Monitoring Survey', known hereafter as LCMS 1998.

<sup>6</sup> The Convention sets a general minimum age of 13 years for light work. In countries where the economy and educational facilities are insufficiently developed the Convention sets a minimum age of not less than 14 years for general work, and 12 years for light work, for an initial period.

<sup>7</sup> It should be noted that the stipulations contained in ILO Conventions Nos. 138 and 182 relating to hazardous work, excessively long work hours and unconditional worst forms, also extend to children aged 15-17 years. The two surveys, however, do not collect information on these issues.

are constructed and in terms of results generated. Section 8 looks at the measurement of key correlates and determinants of child work, assessing the degree to which the two surveys lead to similar conclusions. Section 9 concludes.

## 2. BRIEF OVERVIEW OF THE ZAMBIAN ECONOMY

7. Like most Sub-Saharan economies, agriculture accounts for a substantial part of GDP (Table 2.1). However, as far as foreign currency is concerned, the Zambian economy is heavily dependent on mining of copper, cobalt and zinc.

8. During the 1970s, the Zambian economy was hit hard as a result of declining copper prices, oil price shocks and the government's economic policy stance. This has been exacerbated by the ongoing contraction of food production since independence in 1964. The resulting economic decline has been catastrophic, with per capita income falling almost 5 percent annually between 1974 and 1990.<sup>8</sup> Government expenditures have been adversely affected, leaving less funds for public financing of health and education (Tables 2.1 and 2.2). The HIV/AIDS pandemic has also exacted a heavy toll on the country, and is one of the main reasons why Zambia has seen a falling life expectancy at birth in recent years (Table 2.3).

**Table 2.1 Structure of the Zambian Economy (% of GDP)**

	1980	1990	1999
Agriculture	15.3	20.6	24.1
Industry	42.8	51.3	25.3
Manufacturing	18.5	36.1	12.2
Services	41.9	28.1	50.6
Private consumption	54.6	64.4	91.2
Government Consumption	25.9	19.0	9.7
Imports of goods and services	46.2	36.6	41.5

Source: World Bank (2000b).

**Table 2.2 Sectoral Growth in Zambia (average annual growth)**

	1980-90	1990-00	1999
Agriculture	3.6	3.9	6.9
Industry	1.0	-4.0	-5.1
Manufacturing	4.1	1.2	2.8
Services	-0.7	2.6	6.6
Private consumption	3.6	1.1	1.8
Government Consumption	-3.4	-6.6	-15.8
Imports of goods and services	-2.0	2.9	1.6

Source: World Bank (2000b).

9. Rapid labour force growth (around four percent annually) combined with slow economic growth has meant that job creation in the formal sector has not been adequate to absorb additional job seekers. This has led to an increasing number of new labour force entrants joining the informal sector, where productivity and incomes are often low.

<sup>8</sup> World Bank (2002a).



10. Although lately the economy has started to show some signs of recovery,<sup>9</sup> the fact remains that many Zambian households have been hit hard by the decline of the past decades. A number have undoubtedly had to withdraw their children from school or have not been able to afford to send them to school, and have had to send their children to work instead. Indeed, it is estimated that currently, 73 percent of the population live below the poverty line.<sup>10</sup>

**Table 2.3 Basic Economic and Health Indicators for Zambia**

	1995	1996	1997	1998	1999	2000
GDP per capita (constant 1995 US\$)	386.5	401.5	404.7	388.0	387.2	392.4
School enrolment, primary, net	75	NA	NA	73	NA	NA
School enrolment, secondary, net	NA	NA	NA	22	NA	NA
Population growth (annual %)	2.7	2.6	2.5	2.3	2.2	2.1
Life expectancy at birth, total (years)	45.4	NA	43.2	NA	38.5	NA
Adult HIV-1 seroprevalence (% of population aged 15-49)	NA	NA	19.07	NA	19.95	NA
Mortality rate, under-5 (per 1,000 live births)	NA	NA	188.5	NA	187.0	NA

Source: SIMA (2002).

11. The usage of child work by households as a buffer to sustain their livelihoods has become a relevant option for Zambian households,<sup>11</sup> adversely affecting the human capital accumulation of children (although the macro data are scarce, see Table 2.1). The analysis of child work is, therefore, as relevant as ever for the case of Zambia.

### 3. DESCRIPTION OF THE SURVEYS

12. The Living Conditions Monitoring Survey (LCMS) was carried out by the Zambian Central Statistical Office in 1998, as part of the World Bank Priority Survey programme. The survey sample comprised 16,710 households, representing a sampling fraction of about one household per every 113 households. The survey followed a stratified survey design, covering 8,487 households in rural areas and 8,223 households in urban areas. Each household was visited once. The sample design used the Probability Proportional to Size (PPS) method, implying the allocation of the total sample proportionately to each stratum according to its population share. The sample selection also followed the PPS method.

13. The SIMPOC survey was carried out by the Zambian Central Statistical Office in 1999, under the joint auspices of ILO (SIMPOC programme) and UNICEF (Multiple Indicator Cluster Survey programme). The survey sample consisted of approximately 8,000 households, yielding national and provincial level estimates. Households were stratified into urban and rural areas and into three categories: 1) those with at least one child working for pay or profit, 2) those with at least one child working but not for pay or profit, and 3) those with no children working at all (for rural areas, households were also stratified based on the scale of their agricultural activity, using a

<sup>9</sup> This started mainly with the sale of the Zambia Consolidated Copper Mines (ZCCM) in March 2000, as part of the government's privatisation program. Following this sale, the economy grew 3.5 percent in 2000 with an increase in non-mining GDP by 4.1 percent. Economic outlook is expected to improve with increased investments in the copper mines and rising copper prices, which are projected. GDP is expected to grow 5 percent in 2001; lastly, in December 2000, Zambia has also qualified for debt relief under the HIPC initiative, World Bank (2002a).

<sup>10</sup> World Bank (2002b).

<sup>11</sup> Nielsen (1998) and Jensen and Nielsen (1997).

recent agricultural survey). Households were selected using the PPS sampling method, modified using the Square Root Method.<sup>12</sup>

#### 4. MEASUREMENT OF CHILDREN'S ACTIVITY STATUS

14. Children can be grouped into essentially four non-overlapping activity categories: those who work only, those who study only, those who do both and those who do neither. Differences exist in the way that the SIMPOC and LCMS surveys measured each of these categories.

<i>Table 4.1</i> Questions used to determine work status of children	
SIMPOC 1999	LCMS 1998
<b>What was ... main economic activity in the last 7 days / 12 months? Was ...? (prompt)</b>	<b>What is your main current economic activity status? Are you...</b>
Working .....01	In wage employment.....01
Assisting with work of any kind .....02	Running a business/self employed .....02
Not working but looking for work.....03	Farming, fishing, forestry .....03
Not working or looking for work but available for work .....04	Not working but looking for work/means to do business .....04
Full-time student.....05	Not working and not looking for Work/means to do business but available or wishing to do so.....05
Home maker.....06	Full time student .....06
Retired/very old .....07	Full time at home/home duties.....07
Other (specify).....08	Retired.....08
	Too old to work .....09
	Other (specify) .....10
	<i>[Asked only of those who answered 06 above and who had a job or business in the last 12 months]</i>
	<b>Are you currently engaged in any income generating activities or farming?</b>
	Yes 01
	No 02

15. Table 4.1 presents the questions used to isolate working children in the SIMPOC and LCMS surveys. As shown, while both surveys used the concept of “main” economic activity, there were slight variations in the wording used for the reference period, in that SIMPOC referred to the “last seven days” while LCMS referred more broadly to “current” economic activity. The SIMPOC survey also looked at main economic activity over a one-year reference period, important because child work is often seasonal and therefore may not fall within a particular 14-day period.

16. In the SIMPOC survey, children were considered working if they responded that they were working (01) or assisting with work of any kind (02). In the LCMS survey, children were considered working if they responded that they were in wage employment (01), or running a business/self employed (02), or farming, fishing, or forestry (03) or if they reported that they were a full-time student (06) and reported

<sup>12</sup> See *Zambia 1999 Child Labour Survey Country Report*, Republic of Zambia, Central Statistical Office, available on the ILO website at: <http://www.ilo.org/public/english/standards/ipecc/simpoc/zambia/index.htm> (accessed 5 February, 2002).

working in the last 12 months *and* were currently engaged in any income generating activities or farming.

17. Neither questionnaire included domestic chores as a main economic activity, but the SIMPOC survey contained a separate set of questions specifically looking at this issue (Table 4.2 and Tables A12-A16). The LCMS survey also collected information on household chores, but only in the context of reasons for not attending school.

**Table 4.2** Questions used to determine involvement in household chores

<b>SIMPOC 1999</b>	
Did ... help in housekeeping activities in the last 12 months?	daily both before and after school ..... 3
Yes .....	only on weekends and holidays ..... 4
No .....	during school time ..... 5
N/A.....	any time (no school)..... 6
	any time ..... 7
When do ... usually do household activities?	
daily, before school .....	How long did ... spend on housekeeping activities per day?
daily, after school.....	(enter number of hours)

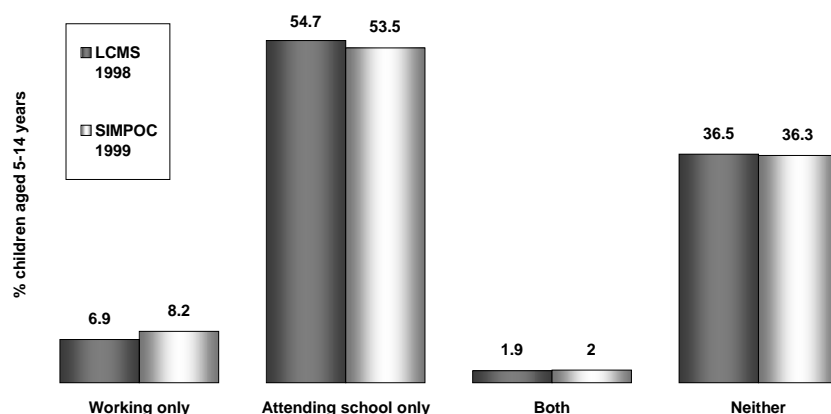
18. Table 4.3 presents the SIMPOC and LCMS questions used to determine whether a child was currently attending school. Some differences between the two surveys are apparent. The SIMPOC questionnaire referred only to the primary or secondary school attendance status of children, whereas the LCMS also included children attending pre-primary school. The SIMPOC question added a clarification at the end of the question in order to capture any children who may have been on holiday at the time the questionnaire was administered, but children on holiday were not captured by the LCMS questionnaire. The SIMPOC survey also collected information on children's birth date, needed to determine the proportion of six year-olds born after the birth date cut-off for entering school, while the LCMS survey only collected information on children's age. Neither survey looked at the regularity of attendance, relevant because children reported as currently attending school may actually be frequently absent from class.

**Table 4.3** Questions used to determine the school attendance of children

<b>SIMPOC 1999</b>	<b>LCMS 1998</b>
Is ... attending primary/secondary school this year regardless if on holiday at the moment?	Is ... currently attending school?
Yes .....	<b>Formal school only-nursery/preschool, primary, secondary, college, university.</b>
No.....	Yes, pre-school .....1
	Yes, other grades.....2
	No.....
	.....3

19. A notable difference also existed between the surveys in their measurement of children combining school and work. The SIMPOC survey allowed children to respond that their main activity was “full-time student”, but asked no follow-up question about whether children who reported being full-time students also worked. The LCMS survey, on the other hand, asked children who reported being full-time students whether they also had had a job or business in the last 12 months, and, if so, whether they were currently engaged in any income generating activities or farming (Table 4.1).

**Figure 4.1 Children's current activity status by data source**



20. Estimates from the two surveys for the proportion of children falling into each of the four distinct activity categories are shown in Figure 4.1 and Tables A4-A7. While statistically significant<sup>13</sup> differences exist between the results generated by the two surveys, these differences, for practical purposes, are quite small. The SIMPOC survey yielded a slightly higher overall estimate of children working only, but not a consistently higher estimate across age or sex. The LCMS survey yielded a very slightly higher overall estimate of children only attending school, but again this result was not consistent for all ages or both sexes. The two surveys generated almost equal estimates of children combining study and of children neither studying nor working.

## 5. MEASUREMENT OF CHARACTERISTICS AND CONDITIONS OF CHILD WORK

21. The sector of work and the modality of employment are indicators that help contribute to an understanding of the nature of child work. Questions used by the two surveys to determine these variables are shown in Table 5.1. For the sector of work, both surveys utilise international standard industrial classifications. For modality of employment, the SIMPOC survey included one category – working for/in private household – not included in the LCMS survey. Otherwise, the information collected by the two surveys was broadly similar.

22. The estimated distributions of working children by sector and modality of employment are shown in Tables 5.2 and 5.3. Again, while the differences in the

<sup>13</sup> Tests of the differences in the means of the two surveys being zero are rejected using a 95% confidence interval for the differences (this result is robust to assuming equal or unequal variances for the two surveys, as well as to using Satterthwaite's and/or Welch's degrees-of-freedom correction).

results of the two surveys are statistically significant, for practical purposes they are small. Both surveys indicated that the overwhelming majority of working children, male and female, were found in the agricultural sector, and worked unpaid within their families.

**Table 5.1** Questions used to determine the sector and modality of employment

SIMPOC 1999	LCMS 1998
What type of job/business is ... doing? <i>[record main occupation both in words and code number]</i>	What type of job/business are you doing? <i>[record main occupation both in words and code number]</i>
What sort of business/service is carried out by ... employer/establishment/business? <i>[record industry of main job/business in both words and code number. In words, record name of employer or type of business.]</i>	What sort of business/service is carried out by ... employer/establishment/business? <i>[record industry of main job/business in both words and code number. In words, record name of employer or type of business.]</i>
What is ..... current employment status?	What is your current employment status?
self employed.....1	self employed..... 1
central government employee.....2	central government employee..... 2
local government employee.....3	local government employee..... 3
parastatal employee.....4	parastatal employee..... 4
private sector employee.....5	private sector employee..... 5
local/inter. org/NGO/embassy.....6	international organisation/embassy employee..... 6
employer.....7	employer/partner..... 7
working for/in private household.....8	unpaid family worker..... 8
unpaid family worker.....9	other 9
other 10	

**Table 5.2** Distribution of working children aged 5-14, by sex and Industry

Industry	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
Agriculture	98.84	98.04	98.44	92.25	87.76	90.12
Manufacturing	0	0.02	0.01	0.38	0.72	0.54
Construction	--	--	--	--	--	--
Electricity, gas, water	0.04	0	0.02	0.43	0.14	0.29
Wholesale and retail trade	0.6	0.68	0.64	4.28	4.26	4.27
Transport	0.2	0.11	0.15	-	-	-
Financial services	0.16	0.06	0.11	0	0.24	0.11
Other community services	0.03	0.13	0.08	2.67	6.89	4.67
Private household employment	0.13	0.98	0.55	--	--	--
Total	100	100	100	100	100	100

**Table 5.3** Distribution of working children aged 5-14, by sex and modality of employment

Modality of employment	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
Wage employed	1.62	0.51	1.07	0.99	0.27	0.65
Self employed	6.88	6.78	6.83	4.65	2.75	3.75
Unpaid family	91.49	92.27	91.87	92.01	94.32	93.1
Private household worker	--	--	--	2.35	2.43	2.39
Other	0.01	0.44	0.22	0	0.24	0.11
Total	100	100	100	100	100	100

23. Only the SIMPOC survey went beyond sector and modality of employment to collect additional information on actual conditions facing children in their workplaces. As illustrated in Table 5.4, the SIMPOC questionnaire asked children about the strenuousness of their work, their work environment, their exposure to potential risks such as machinery and chemicals, their relationship with their employer, abuses suffered at the hands of their employer, work benefits and remuneration. Such information is clearly critical for a more complete picture of the nature and characteristics of child work, and for assessing its harmfulness.

**Table 5.4** SIMPOC questions relating to conditions of work

<i>(Address questions to working children themselves)</i>	
Did you experience any of the following conditions while working at your place of work?	Conditions of work
Do any heavy physical work while at work?	How is your relationship with your employer?
Yes .....1	Good .....1
No .....2	Bad .....2
	DK .....3
	N/A .....8
Working environment too hot?	What are the reasons for this?
Yes .....1	Wants too much work done.....A
No .....2	Wants work done for long hours.....B
Working environment very dusty?	Pays poorly .....C
Yes .....1	Does not pay on time .....D
Nov .....2	Abuses physically .....E
Working with or close to machinery or tools?	Abuse verbally .....F
Yes .....1	OtherG
No .....2	Which of the following were provided by the employer?
Working with or near chemicals?	Bonus (regularly).....A
Yes .....1	Free uniform/subsidised .....B
No .....2	Free meals/subsidised .....C
Are you aware of any likely health problems or possible hazards, injuries or illnesses in connection with your work?	Free transport/subsidised.....D
Yes .....1	Free lodging/subsidised .....E
No .....2	No benefit at all .....F
	DK G
	OtherH
	What was the total amount paid to you in kind for all economic activities in the last month?

24. Neither survey collected information regarding children's total labour supply (i.e., average total hours worked), critical to evaluating the intensity of work and to determining how much children's labour contributes to household income and welfare.

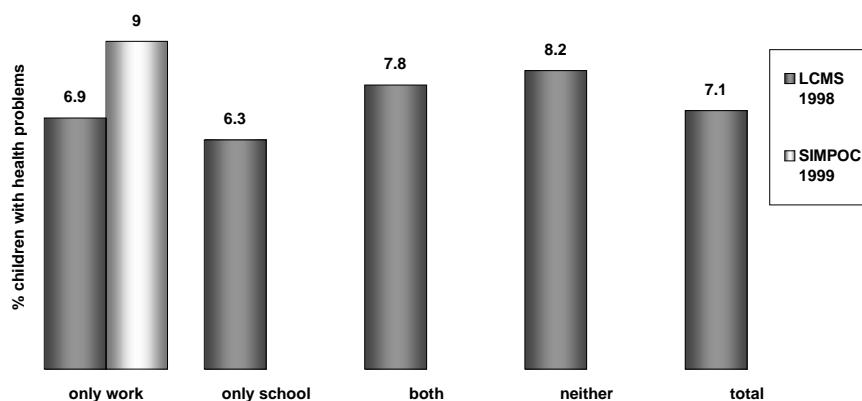
## 6. MEASUREMENT OF THE HEALTH IMPACT OF CHILD WORK

25. The health status of child workers also provides important information concerning the harmfulness of work. Table 6.1 describes the questions used to determine whether children suffered from injuries or illness. As seen from the table, the information collected by the two surveys in this area differed somewhat, limiting the comparability of the survey results.

26. The SIMPOC survey looked at the work-related health problems of working children in considerable detail, collecting information on the frequency and severity of injuries, and on the frequency, type and severity of illness, over both 14-day and one-year reference periods. The questions were addressed to the main respondent as well as to the children themselves. But the SIMPOC questions looked only at working children, and in the case of illness or injury, only referred to those illnesses or injuries that were directly related to their work. This means that it was not possible from the survey results to compare the health of working children with that of children falling into other activity categories.

27. The LCMS questions on child illness/injury were somewhat less detailed, looking only at the type of health problem and whether or not medical help was sought. The questions referred to any type of illness or injury, regardless of whether or not they were work related, and therefore did not isolate the specific health effects of work. Unlike SIMPOC, however, the LCMS questions were addressed to all children, thus permitting comparison of the health status of working children with that of other children.

**FIGURE 6.1 Percentage of children with illness or injury, 14 days preceding survey date by data source and activity status (LCMS only)**



**Table 6.1** SIMPOC and LCMS questions used to determine the health problems of children

LCMS 1998			
Has ... been sick or injured during the last two weeks?		tooth/mouth infection	08
Yes	01	headache	09
No	02	measles	10
		injury of any type	11
What was ... mainly suffering from?		other	12
fever/malaria	01		
cough/cold/chest infection	02	Did ... consult any health or other institution/personnel for this illness/injury or did he/she only use self-administered medicine?	
diarrhoea without blood	03	Consulted	1
diarrhoea and vomiting	04	used self-administered medicine only	2
abdominal pains	05	none	3
eye infection	06		
ear infection	07		
SIMPOC 1999			
[Ask only of all children who were working or assisting with work of any kind.]			
[Questions relating to last 14 days addressed to children themselves, other questions addressed to main respondent.]			
Has... ever been injured at his/her workplace at any time in the past? / Were you injured in the last 14 days?		How often did ... fall ill in the last 12 months due to his/her work? / How often did you fall ill in the last 14 days due to your work?	
Yes	1	Often	1
No	2	Rarely	2
How serious was this last injury?		What was the nature of ... last illness? / What was the nature of your last illness?	
Didn't need medical treatment	1	General body malaise	1
Treated and released immediately	2	Eye infection	2
Hospitalised	3	Ear infection	3
Prevented work	4	Skin problem	4
Other	5	Breathing problem	5
		Stiff neck	6
How often did ... get injured while working? / How often did you get injured while working in the last 14 days?		Back problem	7
Often	1	Other	8
Rarely	2		
How many times was ... injured while working at any time in the last 12 months? / How many times were you injured in the last 14 days? (enter no. of days)		How serious was ... last illness? / How serious was your last illness?	
		Didn't need medical treatment	1
		Treated and released immediately	2
		Stopped work temporarily	3
		Hospitalised	4
		Prevented work	5
		Other	6
Did ... fall ill due to work at any time in the last 12 months? / Did you fall ill due to your work in the last 14 days?			
Yes	1		
No	2		

28. The SIMPOC survey yielded a slightly higher estimate of current illness or injury among children working only than the LCMS survey (Figure 6.1), even though SIMPOC looked only at illness or injury that was work related. Looking at the LCMS estimates of injury/illness prevalence across activity categories, it appears that working children are no worse-off health-wise than other children. This, however, may be at least in part a reflection of the difficulties inherent in measuring the health impact of work. The health consequences of work, for example, may be obscured by

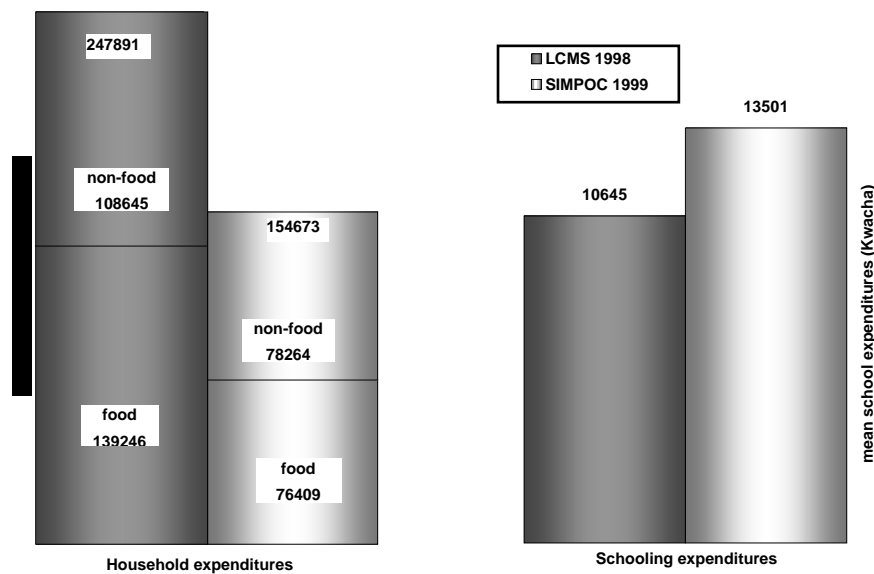


the selection of the healthiest children for work, or by the fact these health consequences may not become apparent until a later stage in a child's life.<sup>14</sup>

## 7. MEASUREMENT OF HOUSEHOLD AND SCHOOLING EXPENDITURES

29. Information on household<sup>15</sup> and schooling expenditures is critical to understanding parents' decisions as to whether to send their children to school or work. The SIMPOC survey questionnaire included six categories of household expenditures: transportation to and from school; food; electricity, charcoal, and firewood; water; rent; and cable/pay TV. The LCMS survey questions relating to household expenditures were much more detailed and numerous. The measure of household expenditures based on the LCMS survey was derived from over 50 detailed questions on expenditures for medical expenses, clothing and footwear, housing (i.e. rent, water, electricity, candles, firewood, etc.), cash remittances, public transport, personal transport, personal services (i.e. toiletries, cosmetics, laundry services, entertainment, etc.), and food.

**FIGURE 7.1 Mean Monthly household and schooling expenditures, by data source**



Note: US\$1 is approximately equal to 3,500 Kwacha

30. These differences in the survey questionnaires led to significant discrepancies in mean household expenditure estimates across the two surveys, as shown in Figure

<sup>14</sup> O'Donnell O., Rosati F.C., and van Doorslaer E., *Child Labour and Health: Evidence and Research Issues*, Understanding Children's Work (UCW) Project, 12 December 2001.

<sup>15</sup> Where expenditures represent a proxy for household income.

7.1. The more comprehensive set of questions contained in the LCMS survey resulted, not surprisingly, in a much higher estimate of household expenditures, both food and non-food.

*Table 7.1 SIMPOC and LCMS questions used to determine the household school expenditures*

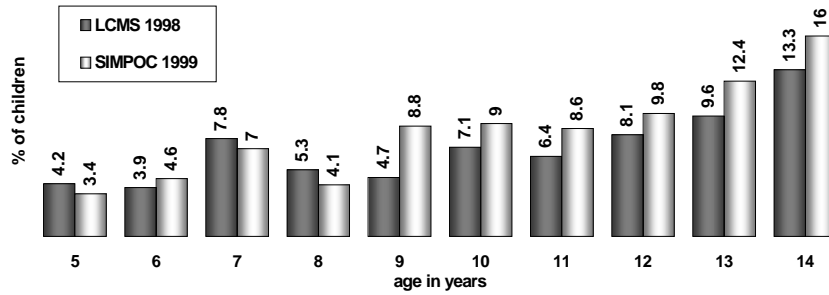
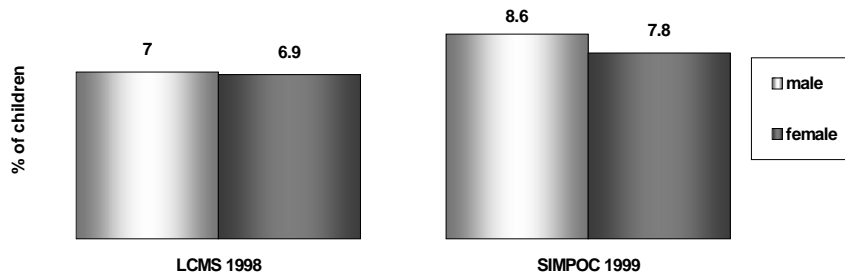
SIMPOC 1999	LCMS 1998
How much was spent on the following during the first school term? (in Kwacha)	How much was spent on the following during the first, second and third school terms this year (1998)? (in Kwacha)
1. school fees including examination fees	school fees including examination fees
2. school uniforms	school uniforms including shoes, socks, ties, etc.
3. contribution to school/PTA	contribution to school/PTA
4. private tuition	private tuition
	books and stationary
How much was spent on transport during the past 1 month to and from school? (in Kwacha)	other school expenses

31. Table 7.1 presents information on the questions used to calculate school expenditures. As seen from the table, there were important differences in the information collected by the two surveys. The SIMPOC survey included information on the costs of transport to and from school, whereas the LCMS did not. The LCMS survey included costs associated with the purchase of books and stationary, as well as a residual category aimed at capturing any other additional expenses related to schooling, neither of which was included in the SIMPOC survey. The LCMS survey collected information on expenditures for the first, second and third school terms, while the SIMPOC survey only looked at schooling expenditures during the first school term. These questionnaire differences resulted in substantial variation in estimates of mean schooling expenditures across the two surveys. In this case it was the SIMPOC survey that yielded the higher estimate (Figure 7.1).

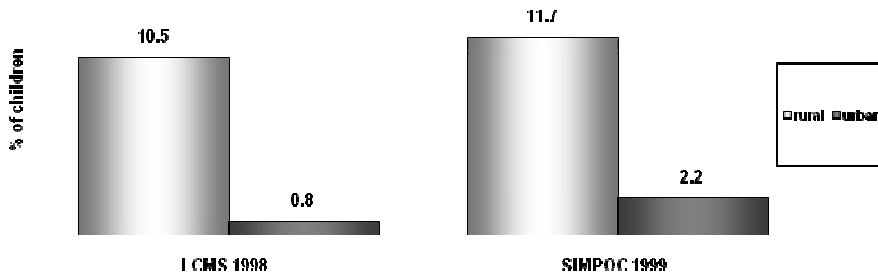
## 8. MEASUREMENT OF CORRELATES AND DETERMINANTS OF CHILD WORK AND SCHOOLING

### 8.1 Descriptive analysis

32. The results from the two surveys point to similar broad correlates of child work and schooling. Both surveys indicate that child work prevalence rises with age, reflecting the higher opportunity costs of school in terms of earnings forgone as the child gets older (Figure 8.1). For both surveys, however, work prevalence does not rise consistently with age until after the age of 10 years. For school attendance, on the other hand, both surveys show a steady rise until the age of 11 (LCMS) or 12 (SIMPOC) and a fall thereafter, corresponding to the end of the seven-year compulsory primary school cycle (Table A5).

**FIGURE 8.1 Proportion of children working only, by age and data source****FIGURE 8.2 Proportion of children working only, by sex and data source**

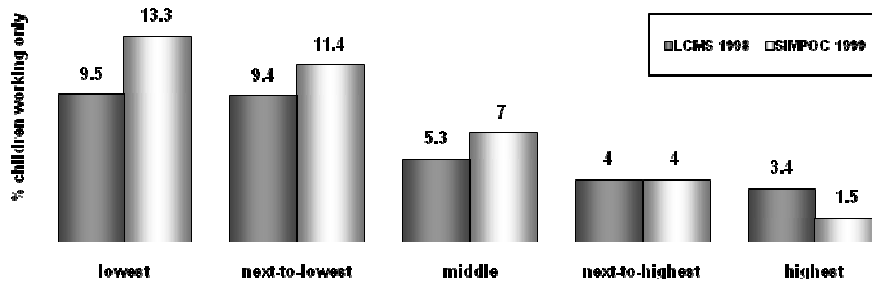
33. Neither survey suggests an important link between gender, child work and schooling (Figure 8.2 and Table A5). The surveys indicate that overall, boys are only very marginally more likely to work than girls, but that this result does not apply across all ages. However, by excluding household chores, a form of work more commonly performed by girls (see Table A12), both surveys understate total work prevalence of girls relative to that of boys. The surveys indicate that the schooling attendance of boys and girls is virtually equal (Tables A3 and A5).

**FIGURE 8.3 Prop. of children working only, by residence and data source**

34. Both surveys indicate that child work is closely related to place of residence (i.e., urban or rural) (Figure 8.3). LCMS 1998 estimated that nearly 11 percent of 5-14 year-olds living in rural areas work only, against less than one percent of 5-14 year-olds in urban areas. Similarly, SIMPOC 1999 found that 12 percent of 5-14 year-olds in rural areas work only, compared to only two percent of urban children falling the

same age group. The survey results thus underscore the fact that child work in Zambia, as in most African countries, is primarily a rural phenomenon.

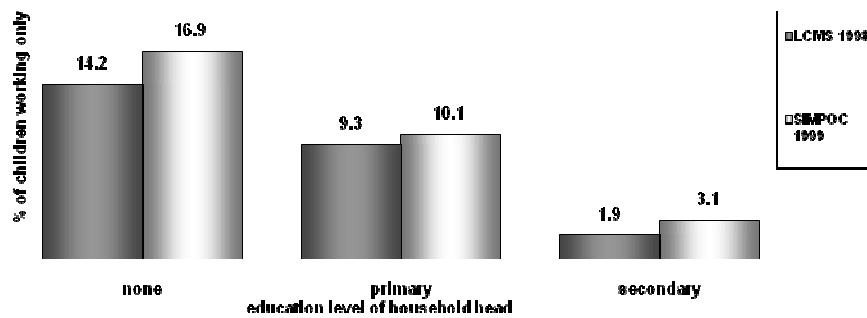
**FIGURE 8.4 Proportion of children working only, by household expenditures (per capita) quintiles and data source**



35. A strong relationship between household expenditure, on the one hand, and child work and schooling, on the other, is also apparent from the two surveys. The survey results indicate that children who mainly work come from low-expenditure households, whereas children who mainly attend school come from households with higher levels of per capita expenditures, evidence for the oft-cited role of poverty in the decision to make children work. The results show child work decreasing, and schooling increasing, as household expenditures per capita rise, with the effect more pronounced for SIMPOC than for LCMS (Figure 8.4).

36. The education level of the household head appears to be another important correlate of child work and schooling prevalence. Both surveys indicate that child work is most common in households in which the head has no schooling, and least common in households in which the head has at least a secondary education (Figure 8.5). The surveys indicate that the relationship between school attendance and education of the household head is the reverse, i.e., attendance is highest in households in which the head is educated, and lowest in households in which the head is not educated (Table A10), perhaps because educated household heads have better knowledge of the returns to education and how these returns can be realized.

FIGURE 8.5 Proportion of children working only, by education level of household head and data source



37. Finally, the results of the two surveys point to a link between schooling expenditure and child work. Both surveys indicate that children who mainly work come from areas where education spending is fairly low, whereas children who mainly attend school come from areas where education spending is relatively high. One possible explanation for this is that higher school costs are related to higher school quality, which in turn makes parents more willing to invest in their children's education.

Table 8.1 Results from estimation of bivariate probit models

Variable	Work only				Schooling only			
	LCMS 1998		SIMPOC 1998		LCMS 1998		SIMPOC 1998	
	Marginal effect	Z	Marginal effect	Z	Marginal effect	Z	Marginal effect	Z
Child age	-.0102805	-2.10	-.000119	-0.02	.5090986	25.97	.5983187	25.65
Child age squared	.0007578	3.04	.0003532	1.21	-.0223639	-23.59	-.0265311	-22.48
Child is female*	-.0066089	-1.51	-.0035774	-0.73	.0159877	1.18	-.0274766	-1.43
HH head is relative*	-.0238415	-2.02	-.0125633	-0.91	.1144149	3.88	.0377331	0.65
HH head has no education	.0182326	2.26	.0452491	6.91	-.1493517	-8.06	-.2724616	-10.31
HH head has only primary education	.0407581	8.06	.0189594	3.90	-.1645988	-12.72	-.1206279	-6.78
HH head is self-employed	.0774583	3.83	.0755095	2.53	-.0172755	-0.27	.0799828	1.80
HH head is government employee	.1296312	1.95	.0282321	0.88	-.0073643	-0.11	.2422738	4.92
HH head is parastatal employee	.1693559	2.90	.0474627	1.45	-.0370718	-0.37	.2419746	4.42
HH head works in private sector	.1078668	1.48	.035684	1.14	-.0625224	-1.01	.0936881	1.97
HH head is an employer	-.0438621	-16.48	-.2779104	-6.34	.0548621	0.51	.1432883	0.73
HH head is a family worker	.2069542	2.21	.0965344	2.44	-.1007681	-1.02	-.0433523	-0.38
HH head holds other employment	.0815144	0.89	.0755898	1.52	.0204134	0.23	.0961974	0.65
Girl to boy ratio in HH	.0367423	4.91	-.0042088	-0.55	-.1331595	-6.09	.0679254	2.23
(log) of schooling expenditures	-.007729	-1.98	-.0076572	-2.15	.0365069	2.71	.0085043	0.58
HH expenditure quintile 1	-.0005454	-0.08	.0797323	7.82	-.2820407	-14.47	-.515056	-14.60
HH expenditure quintile 2	.024460	3.02	.05855	6.26	-.3189443	-17.35	-.3894039	-12.33
HH expenditure quintile 3	-.0031646	-0.41	.045695	5.00	-.1755308	-8.76	-.289127	-9.96
HH expenditure quintile 4	.0052832	0.66	.0203771	2.03	-.1852807	-9.52	-.1632487	-5.89
HH is in urban area*	-.0524571	-9.71	-.0330444	-5.09	.0424206	2.02	-.0501611	-1.98
HH is in Central region*	-.0161051	-2.37	.1135406	4.78	.072378	2.90	-.1224205	-3.19
HH is in Copperbelt region *	.0086987	0.84	.1852532	6.83	.0195498	0.76	-.1954064	-5.58
HH is in Eastern region *	.1483513	7.78	.0421234	2.90	-.1549098	-6.01	-.1995489	-5.86
HH is in Luapala region *			.0155108	1.31			-.0479764	-1.38
HH is in Lusaka region *	-.010159	-1.22	.0509314	2.60	.0595368	2.21	-.2011473	-5.20
HH is in Northern region *	.0656103	6.30	.0415788	3.28	-.0261029	-1.24	-.1196023	-3.71
HH is in North-Western region *	.0159314	1.97	.0279289	2.26	.1010422	4.80	-.0085739	-0.26
HH is in Southern region *			.1407968	6.09			-.104237	-2.96

Notes: \*marginal effect is for discrete change of dummy variable from 0 to 1.

## 8.2 Empirical analysis

38. Empirical analysis of the major determinants of work and schooling<sup>16</sup> also point to largely consistent conclusions across the two surveys. As shown in Table 8.1, and in keeping with the descriptive analysis above, the two surveys agree that older children are less likely to attend school; gender has little effect on the likelihood of a child working; child work is primarily a rural phenomenon; a child is less likely to work and more likely to attend school if the household head is educated; and that higher schooling costs lower the likelihood of a child working. The two surveys also agree that child work is less likely in households in which the head is an employer, and more likely in households in which the head is self-employed or a family employee.

39. Where the results of the empirical analysis differ between the two surveys, it is in the magnitude, rather than the direction of the effect. In terms of their policy implications, therefore, the results remain consistent.

<sup>16</sup> The joint determination of child labour and schooling was investigated through bivariate probit estimations for the two survey samples.

## 9. CONCLUSIONS

40. This study compares and contrasts the World Bank 1998 LCMS survey and the ILO 1999 SIMPOC survey, to study the extent to which there are significant differences in the estimates of child labour and schooling generated by these surveys. This can have important implications for the design and implementation of future surveys on child labour.

41. By and large, the study points to similar results regarding the extent and nature of child labour and schooling across the two surveys. This is true despite the fact that some differences exist concerning the exact wording of specific questions, most notably the questions related to main economic activity/current economic activity status (on the basis of which the work status of children was defined) and the question of school attendance. For example, while the SIMPOC survey contains a question on household chores of children (which appears to be occupying substantial amounts of children's time), the LCMS survey does not include this information. In order to further compare and contrast the findings of the two surveys with respect to child work and schooling, a bivariate probit of child labour and schooling determinants was estimated. The results from this exercise also show that the two surveys yield qualitatively similar results – there are certainly some differences in magnitude, but these are relatively small and can be explained by differences in sampling techniques as well as by the fact that these surveys were carried out during different years.

42. The overall similarity of the survey findings calls into question the need to conduct separate ILO and World Bank household surveys within such a limited timeframe, and points to the importance of closely coordinating child work research efforts in order to avoid the risk of unnecessary duplication.

43. The results of this study contribute to a broader UCW Project effort to better understand the differences and similarities across ILO, World Bank and UNICEF surveys. Also as part of this effort, work is underway to identify possible gaps in the information collected by the surveys and to indicate how improvements in data collection methods can be made. On this basis, a standardised “core” questionnaire on child labour will be developed that can be utilised as either a stand-alone survey or as part of a larger survey.

## REFERENCES

- Baland, Jean-Marie and James A. Robinson (2000) "Is Child Labor Inefficient?", *Journal of Political Economy*, 108 (4):663-79
- Basu, Kaushik and Pham Hoang Van (1998) "The Economics of Child Labor", *American Economic Review*, Vol 88:3, 412-427.
- International Labour Organization (1997) *IPEC at a Glance*. ILO: Geneva.
- Jensen, Peter and Helena Skyt Nielsen (1997) "Child Labor or School Attendance? Evidence from Zambia", *Journal of Population Economics*, 10:407-424.
- Nielsen, Helena Skyt (1998) "Child Labor and School Attendance: Two Joint Decisions", CLS-WP 98-15. Centre for Labour Market and Social Research, Aarhus, Denmark.
- SIMA (2002) *Statistical Information Management and Analysis*, World Bank, Washington, D.C.
- UNICEF (1997) *The State of the World's Children*, Report. UNICEF: New York.
- World Bank (2002a) "Zambia Country Brief", Africa Region, World Bank, Washington, D.C. <http://www.worldbank.org/afr/zm2.htm>
- World Bank (2002b) "Zambia at a Glance", Africa Region, World Bank, Washington, D.C. [http://www.worldbank.org/data/countrydata/aag/zmb\\_aag.pdf](http://www.worldbank.org/data/countrydata/aag/zmb_aag.pdf)



## APPENDIX A: DETAILED DESCRIPTIVE TABLES

**Table A1. Total number of children in the sample by sex and age**

Age	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
5	1,474	1,432	2,906	729	723	1,452
6	1,617	1,625	3,242	727	713	1,440
7	1,425	1,370	2,795	713	720	1,433
8	1,495	1,527	3,022	637	630	1,267
9	1,209	1,212	2,421	626	574	1,200
10	1,357	1,340	2,697	622	674	1,296
11	1,183	1,095	2,278	606	580	1,186
12	1,430	1,407	2,837	625	596	1,221
13	1,191	1,171	2,362	565	610	1,175
14	1,296	1,254	2,550	542	630	1,172
Total	13,677	13,433	27,110	6,392	6,450	12,842

**Table A2. Percentage of children working by sex and age**

Age	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
5	3.5	4.9	4.2	2.6	4.6	3.6
6	4.9	3.5	4.2	5.9	4.7	5.3
7	10.0	6.9	8.5	8.8	7.9	8.4
8	7.8	5.8	6.8	5.8	6.2	6.0
9	5.5	6.6	6.0	14.6	10.4	12.7
10	9.3	10.5	9.9	15.3	8.9	12.0
11	9.1	9.9	9.4	13.8	14.1	13.9
12	12.9	10.8	11.9	14.3	11.3	12.8
13	11.9	14.2	13.0	16.7	17.8	17.3
14	14.5	19.6	16.9	18.3	18.8	18.6
Total	8.8	8.9	8.9	11.2	10.2	10.7

**Table A3. Percentage of children attending school by sex and age**

Age	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
5	11.2	11.9	11.6	4.1	4.6	4.4
6	16.5	22.6	19.6	11.5	15.8	13.6
7	38.8	42.3	40.5	38.3	44.2	41.3
8	58.3	62.6	60.4	62.4	60.8	61.6
9	73.1	73.9	73.5	67.2	68.3	67.7
10	74.5	75.1	74.8	75.7	76.5	76.1
11	79.8	79.5	79.6	74.9	77.5	76.2
12	79.7	76.7	78.2	77.6	79.3	78.4
13	77.2	73.1	75.2	75.5	73.5	74.4
14	74.3	65.5	70.1	74.2	65	69.4
Total	56.3	56.5	56.4	54.1	54.8	54.4

**Table A4. Percentage of children working only, by sex and age**

Age	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
5	3.5	4.9	4.2	2.5	4.4	3.4
6	4.8	3.1	3.9	5	4.2	4.6
7	9.8	5.5	7.8	7.5	6.5	7
8	6.4	4.1	5.3	3.7	4.5	4.1
9	4.3	5.2	4.7	10.5	6.8	8.8
10	7.6	6.7	7.1	11.2	6.8	9
11	6.6	6.3	6.4	9	8.1	8.6
12	8.6	7.7	8.1	11.8	7.7	9.8
13	8.6	10.7	9.6	12.4	12.3	12.4
14	9.9	17.0	13.3	14.6	17.3	16
Total	7.0	6.9	6.9	8.6	7.8	8.2

**Table A5. Percentage of children studying only, by sex and age**

Age	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
5	11.4	11.8	11.6	4.2	4.9	4.5
6	16.4	22.6	19.5	11.8	16.1	13.9
7	38.5	40.4	39.4	38.8	44.4	41.7
8	56.9	61.3	59.0	63	60.8	61.9
9	72.4	72.6	72.5	64.6	64.1	64.4
10	72.8	71.4	72.1	72.6	75.1	73.9
11	77.5	75.7	76.6	71.1	72.5	71.8
12	75.3	73.5	74.4	75.1	77.4	76.2
13	73.9	69.6	71.8	72.4	69.7	70.9
14	69.6	62.7	66.3	72.1	63.2	67.4
Total	54.7	54.6	54.7	53.2	53.8	53.5



**Table A9. Percentage of children aged 5-14 with health problems, by sex and type of activity**

Activity	LCMS 1998			SIMPOC 1999		
	Male	Female	Total	Male	Female	Total
Only work	7.1	6.8	6.9	10.2	7.6	9.0
Only school	6.6	5.9	6.3			
Both	8.5	7.2	7.8			
Neither	7.9	8.6	8.2			
Total	7.1	6.9	7.1			

**Table A10. Percentage of children 5-24, by education of household head, sex and type of activity**

	LCMS 1998				SIMPOC 1999			
	None	Primary	Secondary	Total	None	Primary	Secondary	Total
Male:								
Only work	14.0	9.1	2.0	7.0	17.9	10.7	3.1	8.7
Only school	35.6	48.4	68.9	54.7	35.7	47	66.6	53.2
Both	2.7	1.9	1.5	1.9	1.8	2.4	1.4	1.9
Neither	47.7	40.6	27.6	36.4	44.7	40	28.9	36.3
Female:								
Only work	14.4	9.5	1.8	6.9	16	9.5	3.1	7.9
Only school	36.7	45.6	69.6	54.6	35.7	47	67.9	53.7
Both	2.5	2.3	1.5	2.0	1.2	2.9	1.4	2.1
Neither	46.3	42.6	27.0	36.5	47.2	40.6	27.7	36.4
Total:								
Only work	14.2	9.3	1.9	7.0	16.9	10.1	3.1	8.3
Only school	36.1	47.1	69.3	54.6	35.7	47	67.3	53.4
Both	2.6	2.1	1.5	1.9	1.5	2.6	1.4	2
Neither	47.0	41.5	27.3	36.5	46	40.3	28.3	36.3

**Table A11. Percentage of children aged 5-14, by rural/urban location and type of activity**

	LCMS 1998			SIMPOC 1999		
	Rural	Urban	Total	Rural	Urban	Total
<b>Male:</b>						
Only work	10.5	0.6	7.0	12.5	2	8.6
Only school	47.8	67.3	54.7	47.3	63.5	53.2
Both	2.5	0.7	1.8	2.7	0.7	1.9
Neither	39.3	31.3	36.5	37.6	33.9	36.2
<b>Female:</b>						
Only work	10.6	0.9	6.9	10.9	2.5	7.8
Only school	46.0	68.5	54.6	46.8	65.8	53.8
Both	2.8	0.8	2.1	2.8	0.8	2
Neither	40.6	29.8	36.5	39.5	31	36.4
<b>Total:</b>						
Only work	10.5	0.8	6.9	11.7	2.2	8.2
Only school	46.9	67.9	54.7	47	64.6	53.5
Both	2.6	0.8	1.9	2.7	0.7	2
Neither	39.9	30.5	36.5	38.6	32.4	36.3

**Table A12. Percentage of children aged 5-14 engaged in housekeeping (household chores), by age and sex**

Age	SIMPOC 1999		
	Male	Female	Total
5	33.0	45.2	39.2
6	51.2	55.0	53.0
7	66.1	76.3	71.2
8	74.1	81.2	77.7
9	79.3	85.1	81.9
10	84.8	89.8	87.4
11	84.3	91.3	87.7
12	88.3	92.6	90.4
13	85.1	93.2	89.4
14	87.5	95.2	91.5
Total	71.7	79.2	75.5

**Table A13. Percentage of children aged 5-14 engaged in housekeeping (household chores), by rural/urban location**

	SIMPOC 1999		
	Rural	Urban	Total
Male	72.4	70.6	71.7
Female	78.9	79.7	79.2
Total	75.7	75.1	75.5

**Table 14.** Percentage of children aged 5-14 engaged in housekeeping (household chores), by household expenditure (per capita) deciles

SIMPOC 1999						
	Lowest	Next-to-lowest	Middle	Next-to-highest	Highest	Total
Male	66.1	71.9	74.4	73.8	74.4	71.7
Female	75.9	79	78.8	82.2	82.1	79.2
Total	71.1	75.4	76.5	78.1	78.3	75.5

**Table A15.** Percentage of children aged 5-14 engaged in housekeeping (household chores), by number of hours

SIMPOC 1999			
	Male	Female	Total
Zero hours	18.2	17.1	17.6
1 hour	44.6	43.3	43.9
2-3 hours	29.4	30.4	30.0
4 hours or more	7.7	9.2	8.5

**Table A16.** Average number of hours spent on housekeeping (household chores) by children engaging in housekeeping, by age

SIMPOC 1999			
	Male	Female	Total
5	1.4	1.7	1.6
6	1.7	1.6	1.7
7	1.6	1.6	1.6
8	1.8	1.8	1.8
9	1.9	1.7	1.8
10	1.8	1.8	1.8
11	2.0	2.0	2.0
12	1.9	2.0	2.0
13	2.1	2.1	2.1
14	2.1	2.5	2.3
Total	1.9	1.9	1.9

**Table A17:** Percentage of Children attending primary school or higher, by sex and age, using alternative definition of schooling (LCMS 1998)

Age	Male	Female	Total
5	2.0	2.9	2.4
6	9.6	15.9	12.8
7	34.8	38.9	36.8
8	56.6	59.8	58.2
9	72.3	72.3	72.3
10	73.7	74.4	74.1
11	78.5	77.9	78.2
12	78.8	75.4	77.1
13	76.2	71.8	74.1
14	73.5	64.3	69.1
Total	53.4	53.3	53.4

**Table A18. Sample Means of Children's Activities, SIMPOC99 and LCMS98**

	LCMS 1998	SIMPOC 1999	Difference (%-points)	Difference (%)
Full sample:				
Works	8.9	10.7	1.8	20.2
Attends school	56.4	54.4	-2	-3.5
Only work	6.9	8.2	1.3	18.8
Only school	54.7	53.5	-1.2	-2.2
Both	1.9	2	0.1	5.3
Neither	36.5	36.3	-0.2	-0.5
Girls:				
Works	8.9	10.2	1.3	14.6
Attends school	56.5	54.8	-1.7	-3
Only work	6.9	7.8	0.9	13
Only school	54.6	53.8	-0.8	-1.5
Both	2.1	2	-0.1	-4.8
Neither	36.5	36.4	-0.1	-0.3
Boys:				
Works	8.8	11.2	2.4	27.3
Attends school	56.3	54.1	-2.2	-3.9
Only work	7	8.6	1.6	22.9
Only school	54.7	53.2	-1.5	-2.7
Both	1.8	1.9	0.1	5.6
Neither	36.5	36.2	-0.3	-0.8

**Notes:** Tests of the differences in the means of the two surveys being zero are rejected using a 95% confidence interval for the differences (this result is robust to assuming equal or unequal variances for the two surveys, as well as to using Satterthwaite's and/or Welch's degrees-of-freedom correction).

## APPENDIX B: VARIABLE DEFINITIONS

### Child activities variables:

Working:	1 if individual currently works, 0 otherwise <sup>17</sup>
Attending school:	1 if individual currently attends school, 0 otherwise <sup>18</sup>
Only work:	1 if individual currently works <i>and</i> do not attend school
Only school:	1 if individual currently attends school <i>and</i> do not work
Both:	1 if individual currently works <i>and</i> attends school
Neither:	1 if individual currently <i>neither</i> works <i>nor</i> attends school

### Other variables:

Female:	1 if female, 0 otherwise
Male:	1 if male, 0 otherwise
Household expenditures:	quintiles of (log ) per capita household expenditure
Schooling expenditures: means	(log) schooling expenditure cluster
Urban:	1 if living in an urban area, 0 otherwise
Rural:	1 if living in a rural area, 0 otherwise

### Education of household head:

None:	1 if household head has no completed education, 0 otherwise
Primary:	1 if household head has completed primary education, 0 otherwise
Secondary: or higher,	1 if household head has completed secondary education 0 otherwise

<sup>17</sup> The variable is based on responses to the question: "What is your main current economic activity status? Are you... [groups omitted]". Individuals answering either "In wage employment", "Running business/self employed" or "Farming, fishing, forestry" are considered working (note that individuals answering "Full time at home/home duties" are not included, since it is not clear that these individuals are actually working at home). Additionally, due to the filtering procedure applied in this survey, we have also included as working individuals, who answer "Full time student", for example, to main current economic status but then subsequently answer "Yes" to the question "Are you currently engaged in any income generating activities or farming?"

<sup>18</sup> The variable is based on the responses to the question: "Is [NAME] currently attending school?"