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WORKING CHILDREN IN KYRGYZSTAN:

Results of the 2007
Child Labour Survey

**Working Children in Kyrgyzstan:
Results of the 2007 Child Labour Survey**

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Meltem Dayıođlu
Ankara, 15 September 2008

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EXECUTIVE SUMMARY

This report analyses the prevalence and nature of work carried out by children in Kyrgyzstan, the factors that lead children to work and the possible consequences of children's employment, as measured by their school and health outcomes. It is based on data collected through the 2007 Child Labour Survey (CLS).

Conducted during November and December 2007 by the National Statistical Committee of Kyrgyzstan in collaboration with ILO-IPEC, the International Programme on the Elimination of Child Labour, the CLS interviewed 26,008 individuals and 7,080 children between the ages of five and 17 from 6,300 households. According to CLS estimates based on data for the week preceding the survey, 672,000 of the 1,467,000 children aged 5-17 in Kyrgyzstan are economically active. This figure represents 45.8 percent of all children aged 5-17 and 21.9 percent of all working individuals in Kyrgyzstan (Table E1). When the year preceding the survey is taken as the reference period, the prevalence of economic activity among children increases to an estimated 55 percent.

	Total	Age 5-17	Age 5-11	Age 5-14	Age 12-14	Age 15-17	Age 15+
Total population	5,235	1,467	720	1,091	371	377	3,688
Population 0-4 yrs	456	-	-	-	-	-	-
Labour Force (E + U)	3,136	672	234	437	203	235	2,699
Employed (E)	3,073	672	234	437	203	234	2,635
Unemployed (U)	63	-	-	-	-	-	63
LFPR	65.6%	45.8%	32.6%	40.2%	54.9%	62.3%	73.2%
U rate	2.0%	-	-	-	-	-	2.3%

Note: Labour force and employment under the 'total' column refers to individuals aged 5 and above. Unemployment figures are for individuals 15 years of age and above. The number of children aged 15-17 looking for work in the sample is too small to produce population estimates. Employment figures for children reflect a positive response to employment questions by either children or their parents.

The prevalence of employment among children increases with age from 32.7 percent of children aged 5-11 to 55 percent of children aged 12-14 and 62.3 percent of children aged 15-17. The prevalence of economic work is higher among boys (49.6%) than girls (41.5%); however, a larger proportion of girls (78.1%) perform unpaid household services ('household chores') in comparison to boys (59.6%).

Despite the high employment ratio among children, school attendance is also very high. Among children aged 7-14, the ages covered by compulsory education, the school attendance rate is 98.9 percent. Almost 40 percent of children age six also attend school, as do 89.2 percent

of children aged 15-17. There are no differences in the attendance rates of boys and girls. Almost universal primary education has resulted in close to universal literacy among children, with estimated literacy rates of 98.1 percent among children aged 7-17 and 99.6 percent among those aged 15-17.

The majority of children are involved in multiple activities (Table E2), with slightly more than 40 percent engaged for at least one hour per week in each of the three types of activities examined in the CLS, namely, employment, school and unpaid household services. While it is common for both boys and girls to be involved in all three of these activities, among those children who do not perform both economic work and household chores, variations exist in the time-use patterns of boys and girls, with a larger proportion of girls combining school and household chores and a larger proportion of boys combining school and economic activity. Very few children (0.7%) are engaged solely in economic work.

	All Children	Boys	Girls
School + Employment + Unpaid household services	517 (40.3%)	263 (39.0%)	254 (41.9%)
School + Employment	95 (7.4%)	86 (12.7%)	9 (1.6%)
School + Unpaid household services	424 (33.0%)	169 (25.0%)	255 (42.0%)
Employment + Unpaid household services	25 (2.0%)	13 (1.9%)	12 (2.0%)
School only	195 (15.2%)	127 (18.8%)	69 (11.3%)
Employment only	9 (0.7%)	8.6 (1.3%)	0.8 (0.1%)
Unpaid household services only	8 (0.6%)	3 (0.4%)	5 (0.8%)
Inactive (Idle)	9 (0.7%)	6 (1.0%)	3 (0.4%)
All	1,282	675	608

The overwhelming majority of children in employment (95%) work in agriculture, mostly in production for home consumption. Only two percent of children in employment are wage-earners. The majority of children (55%) work throughout the year and on both weekdays and weekends, with their work hours increasing somewhat on the weekends. Nevertheless, on average, children’s economic employment is limited to 16.4 hours per week and between 2.0 and 2.5 hours per day.

In line with the high prevalence of employment among children in Kyrgyzstan, child labour is also found to be rather high, with 40.3 percent of all children aged 7-17 considered to

be child labourers. In terms of economic sector, the overwhelming majority (96%) of child labourers work in agriculture or home production, and in terms of work status, the overwhelming majority (95%) are unpaid family workers. These findings indicate that child labourers, just like other children in employment, work alongside other household members for the sustenance of the household.

The rather high rate of child labour in Kyrgyzstan is strongly connected to the national definition of child labour in that the definition unconditionally prohibits young children from entering economic employment and very much limits the number of hours of employment permissible for school-going children. Indeed, estimates of child labour are quite sensitive to the limits in working hours established to distinguish light work from employment that poses risks to children. Allowing children aged 5-13 to work 12 or fewer hours per week – the same amount permitted for school-going children aged 14 – would result in a drop of 10 percentage points in the estimate of child labour from 40,3 percent to 30,5 percent. Removing the distinction in permissible work hours based on school attendance and non-attendance would bring about a further drop of 5 percentage points to 25,5 percent.

The prevalence of employment among children varies by their region of residence. Multivariate analysis points to the high predictive power of region with regard to the work status of children and confirms that residence outside Bishkek increases the risk of engaging in employment. However, region of residence has less of an influence on children's school attendance rates, which are similar throughout Kyrgyzstan, indicating that school infrastructure and demand for schooling do not vary significantly across regions. In fact, the age of the child is a very significant determinant of school attendance, which shows that schooling is well-established in the lives of children in all regions of Kyrgyzstan.

Multivariate analysis indicates that agricultural assets, i.e. household ownership of livestock and arable land, significantly increase the likelihood of children's employment as well as their school attendance. This can be explained by the fact that agricultural assets not only present employment opportunities for children, they also provide the family with an income that makes it possible for children to attend school, and because of their relatively limited work hours, children are able to combine the two activities.

In terms of children's working conditions, very few children report experiencing any work-related illness or injury serious enough to preclude them from working or going to school. Nevertheless, the work environment of a fifth of working children demands improvement in terms of working conditions. Furthermore, about 5 percent of working children complain about

mistreatment at work, with the most common complaint that they are constantly shouted at (2.9%).

Children in employment are also found to have slightly lower school-attendance rates than non-working children. Among non-working children aged 7-17, the school attendance rate is estimated to be 97.4 percent, compared to 94.5 percent among working children aged 7-17, with the difference mainly resulting from the lower school attendance of older working children. While attendance rates of working and non-working children aged 7-15 do not differ significantly, attendance rates of working and non-working children aged 16-17 are significantly different, at 82.8 percent and 92.6 percent, respectively. While it is possible that some children may drop out of school because they need to work, the fact that the overwhelming majority of working children do not drop out until after they finish their compulsory education suggests that they may be leaving school in order to learn a trade.

Further analysis shows that of an estimated 49,000 children who do not attend school, 80 percent did attend at some time in the past. Of the estimated 10,000 children aged 7-17 who never attended school, the majority (51.3%) are only seven years of age, making it likely that they are 'late starters'. Among the remaining 48.7 percent, only one-fifth are employed, suggesting that something other than work has prevented these children from attending school. Indeed, survey data indicates that for 91.8 percent of children who never attended school, their lack of attendance was due to some sort of disability or illness, whereas less than 5 percent were unable to attend school because their families could not afford school expenses.

Because the majority of economically active children in Kyrgyzstan are classified as child labourers, immediate action is required to remove them from work. However, given that these children are mostly employed in family establishments performing agricultural activities for the sustenance of the household, it is difficult to visualise what type of government intervention could succeed in withdrawing them from work. A better strategy might involve increasing the awareness of families towards the possible dangers faced by children at work and urging them to protect their children from these risks. Efforts are also needed to understand the factors underlying the great regional variation in the prevalence of child labour and to implement regional-level policies to address region-specific problems. Finally, the high rate of school attendance among children in employment presents an opportunity to reach out to them through the schools in order to teach children how to protect themselves from the potential dangers they face at work. Monitoring working children in schools will also help identify those most at risk, enabling local authorities to take immediate action in the best interests of these children.

INTRODUCTION

This report analyses the prevalence and nature of work carried out by children in Kyrgyzstan, the factors that lead children to work and the possible consequences of children's employment, as measured by their school and health outcomes. It is based on data from the 2007 Child Labour Survey (CLS) conducted by the National Statistical Committee of Kyrgyzstan, in collaboration with the International Labour Organisation's International Program on the Elimination of Child Labour (IPEC) (ILO-IPEC).

Unlike some other ex-Soviet republics, the Kyrgyz Republic has limited petroleum and natural gas reserves. The terrain is very mountainous, with only about seven percent of land under cultivation. Agriculture, particularly animal husbandry, constitutes the country's main economic activity, providing employment for approximately half of the country's working population and accounting for 33 percent of the GDP in 2006 (World Bank, 2008), with services accounting for 47 percent and industry (including construction, mining and electric-power generation) accounting for the remaining 20 percent. Despite Kyrgyzstan's wealth of mineral resources, which include coal, gold and uranium, the mining industry accounts for only 5% of the country's GDP.

Approximately 65 percent of Kyrgyzstan's population of 5.2 million lives in rural areas and is engaged primarily in agricultural activity. The country's rural nature and its heavy economic reliance on animal husbandry and the cultivation of agricultural products such as cotton, tobacco and fruits – areas in which the prevalence of child labour is known to be high – raise concerns that the children of Kyrgyzstan may be at risk of becoming child labourers. Moreover, although the country's economic situation has improved since the early years of independence, as of 2003, 41 percent of the population still lived below the national poverty line (World Bank, 2008), and the per capita GNI in 2006 was limited to \$1,990 (measured in purchasing power parity). Finally, as a result of significant regional disparities – the capital city, Bishkek, and its surroundings are more developed than the country's remote rural areas (Fisher et al., 2004) – there is a significant level of rural-to-urban migration within Kyrgyzstan as well as out-migration to Russia and other Community of Independent States (CIS) countries. Since child labour can be a survival strategy for migrant households, children from these households deserve special attention.

Despite these unfavorable economic circumstances, the Kyrgyz Republic is dedicated to the protection of its children. In 1992, Kyrgyzstan signed and ratified ILO Convention No. 138 on minimum age and established 16 as the minimum age for employment. In 1994, it signed the

UN Convention on the Rights of the Child, and, more recently, in 2004, it ratified ILO Convention No. 182 on worst forms of child labour, thereby committing itself to protecting children under age 18 from hazardous work.

The outline of this report is as follows: Section 1 briefly describes the data set and methodology of the Child Labour Survey; Section 2 provides descriptive statistics on employment and school outcomes of children and discusses how these outcomes change according to socio-economic and regional factors; Section 3 looks at the determinants of employment and school attendance using multivariate analysis; Section 4 discusses the health and school outcomes of working children; and Section 5 concludes the report with a summary of the findings and a discussion of possible interventions designed to reduce child labour in Kyrgyzstan.

SECTION 1

SURVEY METHODOLOGY AND DATA SET

1.1. Sample Design

In 2007, with financial and technical support from ILO-SIMPOC, the State Statistical Committee of Kyrgyzstan conducted the Child Labour Survey (CLS). The total sample size consisted of 6,300 households and 26,008 individuals. The sample size was chosen so as to allow for representative estimates of key child-labour indicators for the country at large as well as for urban and rural areas for seven regions (Batken, Chui, Jalal-Abad, Naryn, Osh, Talas and Issyk-Kul); the capital city, Bishkek; and the city of Osh.¹ Table 1.1 shows the distribution of households and individuals surveyed in each region.

Table 1.1 Distribution of the survey sample by place of residence				
	No of Blocks	No of households	No of individuals	No of children
Batken	37	370	1711	484
Urban	8	80	311	74
Rural	29	290	1400	410
Jalal-Abad	119	1190	5367	1599
Urban	36	360	1407	472
Rural	83	830	3960	1127
Issyk-Kul	55	550	2172	616
Urban	26	260	919	244
Rural	29	290	1253	372
Naryn	32	320	1411	414
Urban	11	110	457	124
Rural	21	210	954	290
Osh	114	1140	5636	1479
Urban	10	100	464	101
Rural	104	1040	5172	1378
Talas	29	290	1263	337
Urban	9	90	350	88
Rural	20	200	913	249
Chui	90	900	3468	958
Urban	18	180	578	157
Rural	72	720	2890	801
Bishkek-City	100	1000	2906	610
Urban	100	1000	2906	610
Rural	0	0	0	0
Osh-City	54	540	2074	583
Urban	52	520	1972	557
Rural	2	20	102	26
Total	630	6,300	26,008	7,080

¹Appendix B of this report contains a detailed description of the sample design prepared by the National Statistical Committee of Kyrgyzstan.

1.2. Questionnaires

The Kyrgyzstan CLS questionnaire was based on the model CLS questionnaire developed by ILO-SIMPOC and consisted of three main parts: 1) an Adult Questionnaire, 2) a Household Characteristics Questionnaire; and 3) a Child Questionnaire.

The Adult Questionnaire was addressed to the most knowledgeable member of the household and collected information on household composition, household members' schooling and employment status, unpaid household services carried out by children and the perceptions of parents/guardians regarding children's employment. It also included a section on "willingness to work" that aimed to measure children employed against their will. The questionnaire was comprised of the following sections:

1. Household Composition and Characteristics
2. Educational Attainment (age 5 and above)
3. Current Economic Activity Status (age 5 and above)
4. Usual Employment Status (age 5 and above)
5. Willingness to Work
6. Household Tasks
7. Perceptions/Observations of Parents/Guardians about Children in Employment

The Household Characteristics Questionnaire was also addressed to the most knowledgeable household member and collected information on housing characteristics, ownership of durable goods and socio-economic status. It was comprised of the following sections:

1. Housing and Household Characteristics
2. Household Socio-Economic Status

The Child Questionnaire was addressed to children between the ages of 5-17 and aimed to collect information on children's school, employment and health outcomes from their own perspectives. The questionnaire was comprised of the following sections:

1. Educational Attainment
2. Current Economic Activity Status
3. Health and Safety Issues for Children in Employment

4. Household Tasks

In order to ensure that the presence of other household members did not influence children's responses, interviewers requested that children be interviewed alone; however, due to reasons that included physical constraints imposed by the place in which the interview was conducted as well as the reluctance of parents/guardians to allow their children to be interviewed alone, this was not always possible. Out of 7,080 children surveyed, only 1,705 children (24.1%) were interviewed alone, whereas the remaining 5,375 children were interviewed in the company of either an adult or another child. In total, the child questionnaire contained 43 questions; however, in order to reduce the length of the questionnaire and to avoid asking younger children questions they would have difficulty understanding, children aged 5-9 were asked only 32 of these questions.

Some questions on children's activities appeared in both the adult and child questionnaires, and in some cases, differences were noted between the responses of adults and children. There are a number of possible explanations to account for these discrepancies. For example, cases where children reported involvement in economic activity but their parents did not could reflect either the fact that parents did not know that their children were employed, or an attempt to hide the fact that their children were employed, or that they did not consider certain activities to be 'employment' per se, but simply 'helping out' other household members.

The following analysis relies primarily on the responses of adults to determine children's employment and school outcomes and their involvement in unpaid household services. However, in cases where a negative response is obtained from parents regarding children's employment and household chores, the responses of children are also examined, and in cases where children have stated their involvement in these activities, the children's responses are taken as reflecting the true outcome and used as the basis for analysis. As will be demonstrated shortly, the discrepancy in the answers provided by adults and children is smaller for schooling than for economic work and unpaid household services.

The CLS was fielded during November and December 2007. The survey used both a short-term reference period (the week preceding the survey) as well as a long-term reference period (the year preceding the survey).

1.3. Definitions of children in employment ('working children') and child labourers

Definitions of key concepts used in the study are given below. For other definitions used in the survey, see Appendix A.

Children in employment ('working children'): Children are defined as employed/working if they worked during the reference period for at least one hour, or if they had a job or business from which they were temporarily absent.

Hazardous work: Hazardous work and children engaged in such work are defined based on ILO Convention No. 182 on the worst forms of child labour. Hazardous work includes unconditional worst forms of child labour such as child prostitution and pornography, slavery and work in slave-like working conditions, child soldiering, involvement in illicit activities, and any other work that might be harmful to a child's physical, social or psychological development.

Child labour: Child labourers are defined as children engaged in work unsuitable for their capacities as children or in work that may jeopardise their health, education or moral development. The Kyrgyz Republic definition of child labourers includes the following:

- i) Children working in unconditional worst forms of child labour;
- ii) Children in hazardous work;
- iii) All working children aged 5-13;
- iv) Working children aged 14-15 who attend school and work 12 or more hours per week;
- v) Working children aged 14-15 who do not attend school but work 24 or more hours per week
- vi) Working children aged 16-17 who attend school and work more than 18 hours per week; and
- vii) Working children aged 16-17 who do not attend school but work more than 36 hours per week.

Hazardous work is defined based on working conditions. The definition is made operational through a series of questions in the CLS that asks the child whether s/he

- carries heavy loads at work (Child Questionnaire, Q. C36);
- operates any machinery/heavy equipment at work (Child Questionnaire, Q. C37);
- is exposed to any one of the listed adverse conditions at work such as dust/fumes, gas/flames, loud noises, etc. (Child Questionnaire, Q. C39); or

- is mistreated at work (Child Questionnaire, Q. C40).

Children at risk of becoming child labourers: Children who are not employed but who are looking for work may be at risk of becoming child labourers. Children under age 10 are categorised as looking for work if they sought employment during the reference week and were available to work had the opportunity existed, whereas children aged 10 and above are categorised as looking for work if they sought employment during the reference week, took specific steps in this direction in the past four weeks and were ready to work during the reference week. Estimates of child employment and child labour were based primarily on children's activities during the reference week, i.e., the week preceding the survey.

1.4. Survey sample and sample characteristics

Of the original CLS sample of 6,300 households, 40.6 percent did not contain any children between the ages of 5-17. In total, 3,745 households containing 7,080 children between the ages of 5-17 were interviewed.

1.4.1 Distribution of children by age group and place of residence

Table 1.2 presents the numbers of children surveyed by age group and place of residence.

	All ages	Age 5-17	Age 5-11	Age 12-14	Age 15-17
Country total	26,008	7,080	3,392	1,829	1,859
Urban	9,364	2,427	2,280	1,190	1,183
Rural	16,644	4,653	1,112	639	676
Regions					
Batken	1,711	484	230	120	134
Jalal-Abad	5,367	1,599	837	395	367
Issyk-Kul	2,172	616	276	164	176
Naryn	1,411	414	200	116	98
Osh	5,636	1,479	746	380	353
Talas	1,263	337	156	81	100
Chui	3,468	958	408	258	292
Bishkek-City	2,906	610	297	150	163
Osh-City	2,074	583	242	165	176

1.4.2. Distribution of children's activities by age group

Table 1.3 presents the numbers of children reported to be in employment, attending school and performing unpaid household services. As discussed earlier, this information was obtained from both children and their parents/guardians, and differences in the reported numbers

reflect the fact that in some cases, children interviewed alone provided responses that differed from those of their parents/guardians.

With regard to child employment, for 6.1 percent of children, the answers provided by adults and children did not match. The size of this discrepancy remained fairly constant regardless of the age of the child, although it was slightly higher with respect to children aged 12-14 (6.5%) compared to children aged 15-17 (6.1%) and children aged 5-11 (5.9%). In all cases, most of the discrepancy was due to parents’ not reporting the employment of children who declared themselves to be employed. This accounted for 90 percent of non-matching responses for children aged 5-11, 84 percent for children aged 12-14 and 79 percent for children aged 15-17. These age-related differences may be due to parents’ greater reluctance to report the employment of younger children or their failure to recognise the types of work performed by younger children as employment per se.

	Age 5-17	Age 5-11	Age 12-14	Age 15-17
Total number of children	7,080	3,392	1,829	1,859
Employment (work)				
Working – reported by parents	2,595	827	788	980
Working – reported by child	2,903	988	869	1,046
Working – reported by child or parent	2,966	1,008	888	1,070
Schooling				
In school – reported by parents	6,210	2,769	1,810	1,631
In school – reported by child	6,229	2,777	1,806	1,646
In school – reported by child or parent	6,246	2,783	1,813	1,650
Unpaid household services (chores)				
Performing chores – reported by parents	4,991	1,731	1,591	1,669
Performing chores – reported by child	4,973	1,726	1,584	1,663
Performing chores – reported by child or parent	5,157	1,830	1,639	1,688

The above analysis indicates that estimates of the prevalence of employment among children based on parents’ responses would be lower than estimates based on children’s responses. Specifically, the use of parental responses alone would have resulted in a reported rate of child employment 5.2 percent lower than the rate reported based on both parents’ and children’s responses, whereas the use of child responses alone would have resulted in a reported rate of child employment 0.9 percent lower than the rate reported based on both parents’ and children’s responses.

By comparison, the discrepancy between parents’ and children’s responses with regard to school attendance is less than 0.5 percent of all children aged 5-17, and while somewhat higher for children aged 15-17 than for children aged 5-14, it remains below 1 percent in all cases.

With regard to children's unpaid household services, as Table 1.3 also shows, estimated rates of children's unpaid household services based on parents' responses would be higher than estimates based on children's responses, with the greatest discrepancy observed for younger children. The difference between adults' and children's responses regarding children aged 5-11 and aged 12-14 is around 6 percent, compared to only 2.4 percent for older children aged 15-17. Whereas discrepancies in responses regarding employment are more often the result of parent's not reporting children as employed, discrepancies regarding unpaid household services result almost equally from parents' and children's failure to mention the performance of chores. Among children aged 5-11, 51 percent of discrepancies stem from children not reporting chores, compared to 53 percent of discrepancies for children aged 12-14 and 57 percent of discrepancies for children aged 15-17.

Interestingly, the discrepancy between parents' and children's responses regarding both employment and unpaid household services is greater for boys than for girls. Non-matching responses with regard to prevalence of employment were found for 6.7 percent of boys and 5.5 percent of girls, whereas non-matching responses for prevalence of unpaid household services were found for 6.3 percent of boys and 3.4 percent of girls. In contrast, discrepancies in parents' and children's responses regarding school attendance are similar for boys (0.7%) and girls (0.6%).

The above analysis indicates that estimated rates of employment and unpaid household services among both boys and girls based on the responses of parents would be lower than estimates based on the combined responses of parents and children. It also indicates that discrepancies in estimated rates of employment and unpaid household services based on either the responses of parents or children alone, in comparison to estimates based on the combined responses of parents and children, are greater for boys than for girls (Tables 1.4 and 1.5). Specifically, the use of parental responses alone would have resulted in a 5.7 lower reported rate of employment among boys and a 4.8 lower reported rate of employment among girls when compared to the rate reported based on both parents' and children's responses, whereas the use of children's responses alone would have resulted in a 1.0 percent lower rate of employment among boys and a 0.7 percent lower rate of employment among girls when compared to the rate reported based on both parents' and children's responses. In the case of children engaged in unpaid household services, the use of parental responses alone would have resulted in a 2.9 percent lower reported rate among boys and a 1.8 percent lower reported rate among girls when compared to the rate reported based on both parents' and children's responses, whereas the use of children's responses alone would have resulted in a 3.5 percent lower reported rate among

boys and a 1.7 percent lower reported rate among girls when compared to the rate reported based on both parents' and children's responses.

	Age 5-17	Age 5-11	Age 12-14	Age 15-17
Total number of boys	3,682	1808	929	945
Employment (work)				
Working – reported by parents	1415	459	412	544
Working – reported by child	1585	553	447	585
Working – reported by child or parent	1624	565	461	598
Schooling				
In school – reported by parents	3227	1490	916	821
In school – reported by child	3235	1494	913	828
In school – reported by child or parent	3244	1498	917	829
Unpaid household services (chores)				
Performing chores – reported by parents	2378	842	749	787
Performing chores – reported by child	2357	835	739	783
Performing chores – reported by child or parent	2484	901	779	804

	Age 5-17	Age 5-11	Age 12-14	Age 15-17
Total number of girls	3,398	1584	900	914
Employment (work)				
Working – reported by parents	1180	368	376	436
Working – reported by child	1318	435	422	461
Working – reported by child or parent	1342	443	427	472
Schooling				
In school – reported by parents	2983	1279	894	810
In school – reported by child	2994	1283	893	818
In school – reported by child or parent	3002	1285	896	821
Unpaid household services (chores)				
Performing chores – reported by parents	2613	889	842	882
Performing chores – reported by child	2616	891	845	880
Performing chores – reported by child or parent	2673	929	860	884

Discrepancies between parents' and children's responses regarding children's employment differed only slightly by age group; in the case of employment, non-matching responses were found for 6.5 percent of boys and 5.2 percent of girls aged 5-11, 6.8 percent of boys and 6.2 percent of girls aged 12-14 and 7.1 percent of boys and 5.1 percent of girls aged 15-17. Smaller discrepancies were observed between parents' and children's responses regarding unpaid household services performed by older children compared to younger children. Whereas non-matching responses were found for 6.9 percent of boys and 4.9 percent of girls aged 5-11 and 7.5 percent of boys and 3.7 percent of girls aged 12-14, non-matching responses were found for only 4.0 percent of boys and 0.7 percent of girls aged 15-17 (see Tables 1.4 and 1.5).

As noted earlier, to ensure more accurate estimations, both parents’ and children’s responses have been used in determining children’s status regarding employment and unpaid household services.

1.4.3. Corrections to data

In the process of analysing the CLS data, certain miscategorisations of activities were noted in the responses provided by both adults and children. Specifically, activities such as carrying water, cutting/storing firewood and tending animals were reported as unpaid household services rather than economic activity. Corrections of these miscategorisations resulted in an increase in the number of working children from 2,966 to 3,139 and a decrease in the number of children performing unpaid household services from 5,157 to 4,877.²

In light of this re-categorisation of children’s activities, adults’ responses were checked against those of children, and adjustments were made accordingly. The resulting net corrections to prevalence of employment and household chores are presented in Table 1.6 by age group and by sex.

Table 1.6 Corrections to activity categorisation by age group and sex												
	Age 5-17			Age 5-11			Age 12-14			Age 15-17		
	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
Additions to children engaged in economic activity	173	155	18	58	51	7	67	61	6	48	43	5
Subtraction from children performing household services	280	258	22	138	119	19	83	81	2	59	58	1

It is perhaps most interesting to note that the vast majority of corrections to both adult responses (90%) and child responses (88%) based on the re-categorisation of activities from household services to employment affected the activity status of boys (n=155) as opposed to girls (n=18). This highlights the fact that in Kyrgyzstan, carrying water, cutting wood and looking after animals are activities more likely to involve boys than girls. Moreover, the increase

² A review of the adult questionnaires found 318 cases in which activities (tending animals, carrying water, cutting/storing firewood) that should have been categorized as employment were erroneously categorized as unpaid household services; because 183 of these children had already been reported as employed, only 135 needed to be reclassified as employed. A similar review of the child questionnaires found 557 cases in which activities that should have been categorized as employment were erroneously categorized as unpaid household services; of these, 392 children had already reported themselves as employed, so that only 165 needed to be reclassified.

It should be noted that children were classified as employed if they worked for a minimum of 1 hour during the reference week. In the case of children miscategorised by the adult questionnaire, the activity/activities erroneously categorized as ‘unpaid household services’ was the only type(s) of unpaid household service reported and accounted for an average of 10.2 hours per week of children’s time. In the case of children miscategorised by the child questionnaire, 44 percent performed other household services in addition to the miscategorised activity/activities; based on the total time reported for all household services (14.5 hours/week), these children were assumed to have performed the miscategorised activity/activities for at least 1 hour per week.

in the prevalence of employment was smaller than the decrease in the prevalence of chores because the majority of boys who looked after animals, carried water and chopped wood were also involved in other forms of economic activity, whereas they did not perform any other unpaid household services.

Furthermore, the majority of corrections involved older children. For example, the employment status of 2.6 percent of children aged 15-17 and 3.7 percent of children aged 12-14 changed as a result of re-categorisation, compared to only 1.7 percent of children aged 5-11. Similar but less pronounced differences among age groups were observed in the changes related to household chores. This may be due to the fact that even though fewer younger children needed to be reclassified as employed, most of them performed no other household services other than the ones initially miscategorised, whereas most of the older children performed other unpaid household services in addition to those miscategorised.

1.4.4. Distribution of children by relationship to household head

Close to 80 percent of children aged 5-17 are sons/daughters of the household head, and most of the remaining 20 percent are grandchildren of the household head, with the parents of the majority of the latter group also residing in the household. Only 346 children (less than 5%) resided in households in which both their biological mother and father were absent, and only 12 children were non-relatives of the household head (Table 1.7).

	Age 5-17	Age 5-11	Age 12-14	Age 15-17
Head of household	8	0	2	6
Spouse	1	0	0	1
Son/Daughter	5,527	2,505	1,482	1,540
Brother/Sister	47	9	7	31
Daughter-in-law/son-in-law	4	0	0	4
Grandchild	1,385	832	317	236
Niece/nephew	88	44	14	30
Servant (live-in)	8	0	4	4
Other (relative)	8	2	2	4
Other (non-relative)	4	0	1	3
Total	7,080	3,392	1,829	1,859

SECTION 2

CHILDREN'S ACTIVITIES AND THE NATURE OF THEIR WORK³

This section of the report presents descriptive statistics on working children in four parts. Part 1 provides a general description of the labour market in Kyrgyzstan; Part 2 presents an overview of children's activities – i.e., market employment, unpaid household services and school attendance; Part 3 offers a more detailed discussion on the nature of children's employment and working conditions; and Part 4 briefly examines the socio-economic background of working children in an effort to establish regularities between children's economic activity and household characteristics.

2.1. General labour market characteristics

The population of Kyrgyzstan is estimated at 5.2 million. The number of children aged 5-17 total 1.5 million, representing 28 percent of the total population, and children age four and under represent 8.7 percent of the total population. Although children under 18 constitute a sizeable part of the population, the population pyramid depicted in Figure 2.1 clearly indicates a decline in the fertility rate. According to World Bank estimates, the average annual population growth rate for 2000-2006 was 0.9 percent (World Bank, 2008).

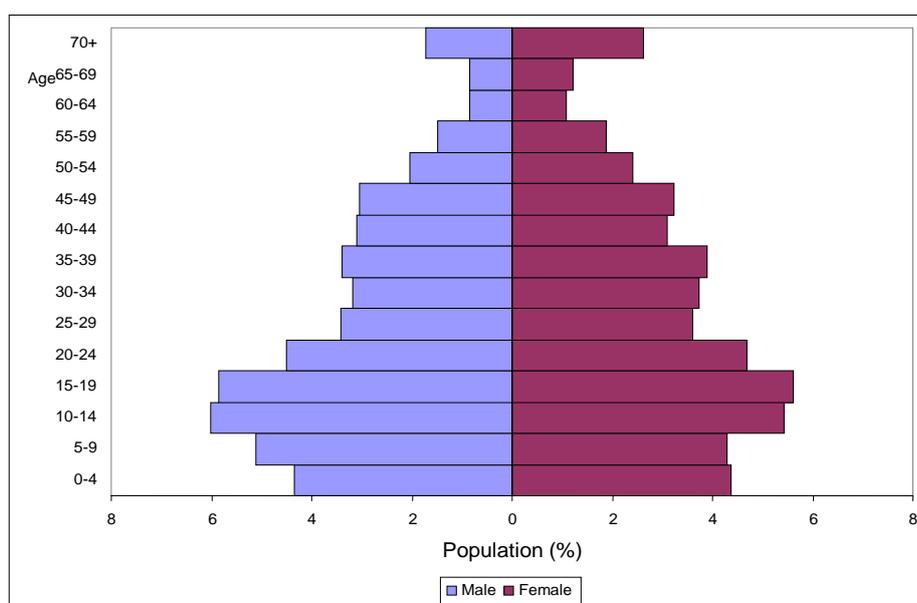


Figure 2.1 Population pyramid, by age and sex

³ Throughout this section, weighted figures are employed. Where necessary, sample figures on which population figures depend are provided as footnotes.

The working-age population (15-64 years) totals 3.4 million, constituting 64 percent of the total population (Table 2.1). In other words, for every dependent, there are approximately 1.8 individuals who can work. This situation represents a ‘demographic window of opportunity’, provided that the working-age population can be gainfully employed. In fact, the labour force participation rate among the age group 25-64 years is very high, at 83.8 percent (Table 2.1). Although this rate is higher for men (90.4%) than women (77.8%) (Table 2.2), women’s participation in the labour force is high in comparison to OECD and EU averages.

	Total	Age 15+	Age 15-19	Age 20-24	Age 25-64	Age 65 +
Total population	5,235	3,688	600	482	2,271	336
Population aged 0-4	456					
Population aged 5-14	1,090					
Labour Force (E+U)	3,137	2,699	368	344	1,901	84
Employed (E)	3,073	2,635	362	330	1,858	84
Unemployed (U)	63	63	6	14	43	-
LFPR	65.6%	73.2%	61.4%	71.5%	83.8%	25.1%
Unemployment Rate	2.0%	2.3%	1.6%	4.0%	2.3%	0.3%

Note: Labour force and employment under the ‘total’ column refers to individuals aged 5 and above. Unemployment figures are for individuals 15 years of age and above. Employment figures for children are based on a positive response to employment questions by either children or parents.

	Age 15 +		Age 15-19		Age 20-24		Age 25-64		Age 65 +	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
LFPR	80.26	66.78	68.07	54.41	78.62	64.68	90.35	77.83	30.36	21.67
Unemployment Rate	2.4	2.28	1.29	2.04	5.17	2.60	2.21	2.34	0.0	0.67

Considering the high labour force participation rates, unemployment rates are rather low, at an estimated 2.3 percent among individuals aged 25-64, and slightly higher among men and among young people aged 20-24 (see Tables 2.1 and 2.2). The concurrent low unemployment rates, high labour force participation rates and limited job opportunities can be explained by the size of the agricultural sector. Indeed, as noted earlier, agriculture is by far the most important sector of economic activity in Kyrgyzstan.

The distribution of the employed population by economic sector (Table 2.3) points to the importance of agriculture and home production in the lives of the people of Kyrgyzstan. Over half of the working population is engaged in either agricultural activity or in the production of goods and services for home consumption, which, in the case of Kyrgyzstan, involves mainly agricultural work. It is especially common for younger and elderly individuals to be involved in

home production for household consumption. Around 20 percent of the population aged 25-64 is also involved in home production, and another 25 percent of this age group in agricultural activities. This pattern of employment is consistent with the rural character of the nation and indicates that a significant proportion of households have weak ties with the market.

	Age 15+	Age 15-19	Age 20-24	Age 25-64	Age 65+
Agriculture & fishing	26.57	32.34	28.39	25.04	28.97
Mining	0.36	0.16	0.33	0.42	0
Manufacturing	4.75	2.66	4.87	5.29	1.07
Electricity, gas, water	0.90	0.07	0.77	1.1	0.43
Construction	4.52	1.52	5.35	5.11	0.66
Wholesale and retail trade	13.3	6.96	13.35	14.90	4.61
Hotels and restaurants	1.93	1.44	3.12	1.91	0
Transport, storage	5.78	0.59	3.90	7.29	1.50
Financial intermediary	0.69	0.03	0.80	0.83	0
Real estate	1.23	0.29	1.06	1.50	0
Public administration	2.91	0.22	1.96	3.70	0.36
Education	5.38	0.82	4.2	6.47	5.01
Health	2.80	0.09	2.01	3.52	1.16
Other personal and community services	2.64	1.51	2.24	2.91	3.07
Household production for own consumption	26.23	51.37	27.64	19.99	53.15
No. of individuals (n=000)	3,688	600	482	2,271	336

2.2. Children's activities

Children's activities are analysed below under three separate headings: employment (economic work), school attendance and unpaid household services (chores). Children are expected to be involved not only in one of these activities, but, more commonly, in more than one of them.

2.2.1. Employment

The number of children in employment between the ages of 5 and 17 in Kyrgyzstan is estimated to be 672,000 (Table 2.4), accounting for 45.8 percent of all children in this age group. The proportion of children in employment increases with age. More than one-third of children aged 5-11 are employed, this figure increases to 54.9 percent among children aged 12-14 and to 62 percent among children aged 15-17. Nevertheless, the prevalence of work among the youngest age group remains high, a fact that may be explained by the large sizes of the agricultural sectors in Kyrgyzstan.

Child Pop.	Age 5-17			Age 5-11			Age 12-14			Age 15-17		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Total	1,467	774	694	720	393	327	371	189	181	377	192	185
Working (n)	672	384	288	234	138	96	203	113	91	234	133	101
Working (%)	45.8	49.6	41.5	32.6	35.2	29.5	54.9	59.5	50.1	62.0	69.3	54.5

Note: Figures are based on a positive response to employment questions by either children or parents.

Employment is more common among boys (49.6%) than girls (41.5%), with the difference in work ratios particularly pronounced among older children aged 15-17. For this group, the employment rate among girls (54.5%) is 15 percentage points lower than among boys (69.3%).

While the rates of child employment may be high, the number of hours children work is relatively low. On average, children work 16 hours per week,⁴ with the majority (59.3%) working 14 hours or less (Table 2.5). Moreover, the proportion working excessively long hours (44 hours or more) accounts for less than five percent of all children in employment. The distribution of working hours is relatively similar for boys and girls, although a smaller proportion of boys work for 14 hours or less. On average, boys are engaged in economic activity for 16.6 hours per week and girls for 15.2 hours per week.

Hours of work per week	Distribution of working children		
	All children	Boys	Girls
14 hours or less	59.28	56.43	63.08
15-43 hours	36.23	37.39	34.70
44 hours or more	4.49	6.19	2.22

Note: Figures refer to number of hours worked during the reference week.

The distribution of work hours is relatively constant, with little variation in the number of hours worked per day or between weekdays and weekends (Table 2.6). On average, children work for 2.2 hours per day during the week, 2.3 hours on Saturdays and 2.5 hours on Sundays. Whereby boys work for 2.2 hours per day on weekdays, compared to 2.1 hours per day for girls. Similar differences were observed for weekends as well.

⁴ For 49 children, total hours worked could not be estimated because the reported hours worked also included time spent performing unpaid household services, whereas 96 children did not provide any information on hours worked. For 8 children, the number of hours worked were underestimated because some forms of employment were miscategorised as unpaid household services.

Table 2.6 Mean hours worked per day			
Days	Mean hours of work		
	All Children	Boys	Girls
Monday	2.18 (1.55)	2.24 (1.66)	2.10 (1.39)
Tuesday	2.19 (1.59)	2.25 (1.68)	2.10 (1.45)
Wednesday	2.18 (1.57)	2.24 (1.69)	2.09 (1.39)
Thursday	2.20 (1.57)	2.25 (1.68)	2.13 (1.41)
Friday	2.18 (1.58)	2.23 (1.68)	2.11 (1.43)
Saturday	2.29 (1.60)	2.37 (1.73)	2.19 (1.41)
Sunday	2.47 (1.78)	2.54 (1.86)	2.38 (1.67)
Weekly average	15.99 (10.22)	16.63 (10.92)	15.15 (9.16)

Notes: Figures refer to hours worked in the reference week. Standard deviation is given in parenthesis.

In order to establish children’s ‘usual employment status’, parents were asked if their children had worked for at least one hour during the 12 months preceding the survey and if so, when.⁵ Accordingly, 46.8 percent of children were estimated to have been employed at some time during the year preceding the survey. This rate is nearly 10 percentage points higher than the rate of child employment reported by parents for the week preceding the survey (Table 2.7). Moreover, although no information was provided by children regarding their usual employment status, given the differences in the estimated employment rates for the week preceding the survey based on parental responses (37.5%) and those based on the combined responses of children and parents (45.8%; see Table 2.4), it is also possible that the actual rate of ‘usual employment’ is even higher than the estimate provided here. If the discrepancies in employment estimates for the one-week and one-year reference periods are similar, then it is likely that the true prevalence of employment among children at any time over the year is closer to 55 percent.

Table 2.7 Children’s employment status as reported by parents/guardians (%)			
	All children	Boys	Girls
Children employed during the reference year	46.82	48.52	44.93
Children employed during the reference week	37.50	39.01	35.82

A closer look at the ‘usual employment status’ of children shows that 55 percent of children engaged in economic activity were employed throughout the year (Table 2.8). The proportion employed for three months or less – the length of the summer school holiday – is limited to 12.6 percent. As Table 2.9 shows, although the proportion of children in employment is higher during the summer months, reaching a peak in the month of August, child employment is by no means limited to the summer, but extends well beyond it.

⁵ It should be noted that children were not asked about their ‘usual employment status’; therefore, no comparisons could be made between responses of children and adults, and estimates were made based on adult responses only. Moreover, since neither parents nor children were asked about children’s unpaid household services during the 12 months preceding the survey, it was not possible to control for responses that misclassified economic activity as unpaid household services, as was done with the one-week reference period.

Number of months	Percent of working children
1	0.86
2	2.41
3	9.37
4	5.46
5	5.01
6	5.53
7	4.12
8	4.82
9	3.5
10	3.11
11	0.86
12	54.95

Month	Percent of working children
January	59.84
February	60.31
March	63.61
April	67.76
May	74.02
June	83.82
July	86.59
August	89.05
September	83.0
October	77.27
November	72.0
December	70.23

2.2.2. School

Compulsory education (9 grades) in Kyrgyzstan covers mainly children aged 7-14, and school attendance among children in this age group is 98.9 percent. Pre-school is not compulsory, and as a result, only 19 percent of children aged 3-5 attend pre-school (UNICEF, 2007). While children do not normally start primary school until age 7, nearly 40 percent of children age 6 attend school as well. School attendance among children aged 15-17, which is beyond the age of compulsory education, is estimated to be 89.2 percent, which is somewhat lower than estimates for children of compulsory school age. Near universal primary education has resulted in near universal literacy rates for children, with estimates of 98.1 percent literacy among children 7-17 and 99.6 percent among older children aged 15-17.

Based on these figures, and in light of the above information on children's work hours, it is possible to conclude that employment does not constitute a significant risk to children's education, at least as measured in terms of school attendance and literacy, and that their relatively limited hours of daily work allow children to combine employment with schooling.

2.2.3. Unpaid household services

The majority of children (68.4%) provide unpaid household services, i.e., perform ‘household chores’ (Table 2.10). The proportion of girls performing chores is higher than that of boys, and this discrepancy increases with age. Among all children aged 5-17, 78.1 percent of girls and 59.6 percent of boys perform chores. Among younger children aged 5-11, these rates are 57.4 percent for girls and 41.3 percent for boys, and among older children aged 15-17, they are 97.5 percent for girls and 80.2 percent for boys.

Child Pop.	Age 5-17			Age 5-11			Age 12-14			Age 15-17		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Total (n=000)	1,467	774	694	720	393	327	371	189	181	377	192	185
Chores (n=000)	1,003	462	542	350	162	188	319	146	173	334	154	181
Chores (%)	68.4	59.6	78.1	48.6	41.3	57.4	86.1	77.0	95.6	88.7	80.2	97.5

Note: Children were identified as performing unpaid household services based on information provided by both children and parents.

Activity	Boys	Girls
Shopping for household	53.81	40.72
Repairing household equipment	6.01	0.43
Cooking	4.08	22.51
Cleaning utensils/house	24.0	33.05
Washing clothes	1.87	1.63
Caring for children/old/sick	5.23	2.38
Other household tasks	7.24	0.75
Total (n=000)	462	542

When examined in more detail, a sizeable proportion of children are found to be involved in shopping and cleaning (Table 2.11). Among boys who performed unpaid household services, 53.8 percent reported shopping for the household and 24.0 percent reported cleaning. Among girls, these rates were 40.7 percent and 33.1 percent, respectively. Moreover, 22.5 percent of girls also cooked for the household. While caring for other children and elderly or sick household members was not found to be a common activity, it is interesting to note that boys were involved in providing such care more often than girls. This could have been the result of girls’ performing caregiving as a secondary household activity and reporting only the primary activity (e.g., cooking, cleaning, etc.) in which they are engaged. In contrast, caring for siblings or elderly household members might be the only type of household activity performed by boys, who would therefore be more likely to report it.

Hours of chores per week	Percent of children performing chores		
	Total	Boys	Girls
14 hours or less	76.34	81.14	72.25
15-43 hours	23.50	18.78	27.52
44 hours or more	0.16	0.08	0.23
Total (n=000)	1,003	461	542

Note: Figures refer to total hours of chores performed during the reference week.

On average, children spent 11.2 hours per week performing unpaid household services.⁶ Over three-quarters of children who perform such chores spend no more than 14 hours per week on them, and practically no children at all spend excessively long hours (above 43 hours per week) on chores (Table 2.12). The time spent on chores is distributed fairly evenly throughout the week, with children spending approximately 1.5 hours on chores on weekdays and close to two hours per day on weekends (Table 2.13).

Days	Mean hours		
	Total	Boys	Girls
Monday	1.48 (1.06)	1.36 (1.04)	1.58 (1.07)
Tuesday	1.49 (1.09)	1.36 (1.09)	1.60 (1.07)
Wednesday	1.51 (1.06)	1.38 (1.05)	1.62 (1.06)
Thursday	1.51 (1.08)	1.36 (1.05)	1.64 (1.09)
Friday	1.52 (1.07)	1.38 (1.05)	1.64 (1.07)
Saturday	1.75 (1.16)	1.59 (1.13)	1.89 (1.17)
Sunday	1.98 (1.40)	1.78 (1.29)	2.14 (1.47)
Weekly average	11.32 (6.96)	10.21(6.65)	12.11 (7.13)

Notes: Figures refer to hours worked in the reference week. Standard deviation is given in parenthesis.

On average, girls spend two hours more each week on unpaid household services than boys. This difference is larger than the difference in the amount of time boys and girls spend in employment. As a result, the overall amount of time girls spend in productive work (economic work plus unpaid household services) is greater than the amount of time spent by boys.

2.2.4. Children in multiple activities

The overwhelming majority of children are engaged in at least two of the three activities examined by the survey, i.e., employment (economic work), schooling and unpaid household services (non-economic work) (Table 2.14). Among children engaged in a single activity,

⁶ The number of hours spent on chores were estimated on the basis of 4,875 children out of a total sample of 4,877. Two children did not provide any information on time spent on chores. For 10 children, the number of hours spent on chores was overestimated because some forms of employment were miscategorised as household chores.

schooling is by far the most common. In contrast, the proportion of children engaged solely in employment or solely in unpaid household services are negligible, accounting for 0.7 percent and 0.6 percent, respectively, of all children aged 7-17. Most often, children are engaged in all three activities, with 40.3 percent of all children aged 7-17 spending part of their week in employment, part of it in school, and part of it performing household chores. The next-most-common time-use pattern among children involves attending school and performing chores.

Time-use patterns differ somewhat between boys and girls, with boys more likely to be employed and girls more likely to provide unpaid household services. The proportions of boys (39%) and girls (41.9%) engaged in employment, school and chores are similar; however, whereas more boys (12.7%) than girls (1.6%) combine school with employment, more girls (42%) than boys (25%) combine school with household chores. It is equally uncommon for boys and girls to be solely engaged in economic work or unpaid household activities without attending school.

Table 2.14 Distribution of Children (Ages 7-17) by Activity and Sex (n=000)

	All Children	Boys	Girls
School + Employment + Unpaid household services	517 (40.3%)	263 (39.0%)	254 (41.9%)
School + Employment	95 (7.4%)	86 (12.7%)	9 (1.6%)
School + Unpaid household services	424 (33.0%)	169 (25.0%)	255 (42.0%)
Employment + Unpaid household services	25 (2.0%)	13 (1.9%)	12 (2.0%)
School only	195 (15.2%)	127 (18.8%)	69 (11.3%)
Employment only	9 (0.7%)	8.6 (1.3%)	0.8 (0.1%)
Unpaid household services only	8 (0.6%)	3 (0.4%)	5 (0.8%)
Inactive (Idle)	9 (0.7%)	6 (1.0%)	3 (0.4%)
All	1,282	675	608

2.2.5. Inactive (Idle) children

Few children aged 5-17 are considered to be ‘inactive’ or ‘idle’, i.e., they do not attend school, are not employed in economic work and do not provide unpaid household services. Inactive children account for only 7.8 percent of all 5-17-year-olds (Table 2.15), and most of them are very young children. The rate of inactivity is less than one percent among children aged 12-14 and 15-17, whereas it is 15.4 percent among children aged 5-11. Closer analysis shows that children age 5 and 6, who have not yet reached compulsory school age and are too young to

perform work of any nature, account for the majority of inactive children, with 69.8 percent of children age 5 and 45.9 percent of those age 6 found to be inactive.

Child Pop.	Age 5-17			Age 5-11			Age 12-14			Age 15-17		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Total (n=000)	1,467	774	694	720	393	327	371	189	181	377	192	185
Inactive (n=000)	115	62	53	111	59	52	1	1	-	3	2	1
Inactive (%)	7.8	8.0	7.6	15.4	15.1	15.8	0.3	0.5	-	0.8	0.9	0.7

2.3. Nature of children's employment in the labour market

2.3.1 Status in Employment⁷

The overwhelming majority of children in employment in Kyrgyzstan work as unpaid family workers. Specifically, 94.2 percent of boys and 95 percent of girls in employment are unpaid family workers. The proportion of children employed on their own account is limited to 3.7 percent of boys and 3.4 percent of girls, and only 2.1 percent of boys and 1.7 percent of girls are wage-workers. Over 90 percent of children in employment work without a written contract.

2.3.2 Workplaces

The overwhelming majority of children work within their own household premises (Table 2.16), with this ratio slightly higher among girls (92.8%) than boys (90%). Work that takes place at a farm/garden/plantation also accounts for a significant percent of children in employment (5.4% of boys and 3.7% of girls). These results are not surprising, given that children are primarily employed as unpaid family workers. The few children who are employed at a street or market stall are older children. In fact, children aged 16-17 constitute roughly 60 percent of all children who work at a street or market stall as well as 60 percent of children who work in a shop/kiosk/café/restaurant or hotel.

Place of work	All children	Boys	Girls
At family dwelling	91.17	89.97	92.77
Plantation/farm/garden	4.66	5.37	3.73
Shop/kiosk/café/restaurant/hotel	1.01	0.87	1.21
Fixed street/market stall	1.54	2.05	0.85
Other	1.62	1.74	1.44

⁷ Questions on employment status and workplace were posed only to children aged 10-17; for this reason, estimates on children's employment status and workplaces are based on a sample of 3,040 children in employment.

2.3.3 Economic sector and occupation

Children who work are primarily engaged in agricultural activity and in the production of goods for home consumption, with these two activities accounting for over 95 percent of all children in employment. Sales is the only other sector in which children are employed in non-negligible numbers and accounts for 2 percent of all children in employment.

Sector	All children	Boys	Girls
Agriculture/fishing/hunting/forestry	19.99	26.58	11.21
Home production	76.01	69.47	84.72
Sales	2.07	2.11	2.02
Other	1.93	1.84	2.05

The distribution of children across occupations (Table 2.18) shows the clustering of working children in unskilled agricultural occupations, suggesting that the activities children perform as part of home production are also related to agriculture. Services and sales also account for a small percentage of child employment (2.5%).

	All children	Boys	Girls
Skilled agricultural work	1.00	0.99	1.01
Services and sales	2.48	2.39	2.61
Unskilled agricultural work	94.41	94.16	94.74
Unskilled work other than agriculture	1.05	1.18	0.88
Other	1.06	1.28	0.76

2.3.4 Earnings

Children's average monthly earnings were estimated to be 1,297 (s.d. 1,188.6) Kyrgyzstani Som.⁸ Considering that the average monthly income of households with at least one child aged 5-17 was estimated to be 5,803.60 (s.d. 4,512.7) Som, children's earnings can be said to account for approximately one-fifth of their average household income.

When children were asked what they did with their earnings, their most frequent response (77.9%) was that they give their earnings to their parents/guardians and their second-most-frequent response (51.3%) was that they bought things for the household. Only 13.5 percent said they bought things for themselves, and only 5.2 percent said they used their earnings to pay their

⁸ Information on children's earnings was based on the reported earnings of 187 out of 205 children aged 10-17 engaged in wage work during the reference week. (The remaining 18 did not provide information on earnings.)

school fees. With regard to the latter response, it should be noted that only 57.8 percent of children who work for pay attend school, compared to 92.7 percent of children in employment.⁹

2.3.5 Child labour

Child labourers include children performing hazardous work as well as other children whose age, school status or working hours make them vulnerable to work-related risks to their physical, social, psychological or educational development (see Section 1.3 on definitions). Information on working conditions provided by the CLS Child Questionnaire indicates that of an estimated 672,000 children in employment, 592,000 children are involved in work unsuitable for their capacities as children. In other words, child labourers account for 88.1 percent of children in employment and 40.3 percent of all children aged 5-17. In line with the higher prevalence of work among boys than girls, boys account for 57.9 percent of child labourers.

In addition to the estimates cited above, child labour estimates were also calculated based on the ILO operational definition (see Appendix A) in order to allow for international comparisons. According to the international definition, 450,000 children in Kyrgyzstan, i.e., 30.7 percent of all children aged 5-17, are engaged in child labour. Clearly, regardless of whether estimates are based on the national or international definition, the rate of child labour in Kyrgyzstan is quite high, with the prevalence of work among young children contributing significantly to this high rate.

The overwhelming majority of child labourers are employed as unpaid family workers (95%). They are mostly involved in the sectors of home production (76.4%), which usually involves agricultural work, and agriculture (19.7%) (Table 2.19). These findings indicate that child labourers, like other children in employment, work alongside other household members for the sustenance of the household.

Sector	All children	Boys	Girls
Agriculture/fishing/hunting/forestry	19.65	25.72	11.31
Home production	76.38	69.99	85.17
Sales	1.92	2.07	1.72
Other	2.05	2.22	1.80
Total (n=000)	592	343	249

⁹ In this instance, employment status was determined based on children’s responses only.

2.4. Household characteristics of working children

2.4.1 Household size and composition

As seen in Table 2.20, households of children aged 5-17 consist of an average of 5.5 household members, with the households of working children and child labourers slightly larger than average (5.6 members) and containing a smaller proportion of working-age adults aged 18-64 ($p < 0.052$).

	All	Working children	Child labourers
Household size	5.46 (1.85)	5.61 (1.78)	5.63 (1.78)
Household composition (%)			
Individuals 0-4 years	6.37	5.83	6.17
Individuals 5-17 years	45.16	45.80	46.0
Individuals 18-64 years	45.26	44.93	44.4
Individuals 65 years and over	3.21	3.45	3.58

Note: Data is based on households with children aged 5-17 only. Child labourers are identified using the national definition. Figures in parentheses are standard deviations.

2.4.2 Household income and expenditure

Despite the fact that the household income and expenditure of households with children in employment and child labourers include the additional contributions made by these children, as Table 2.21 shows, children in employment tend to come from less well-to-do households. This finding holds true regardless of whether the household's financial standing is measured in terms of income or expenditure and whether or not corrections are made for household size and composition, and it is consistent with the general findings in the literature showing poverty to be an important determinant of child labour.¹⁰

¹⁰ See Behrman and Knowles (1997), Bhalotra (2001), Blunch and Verner (2000), Borooah (2000), Canagarajah and Coulombe (1997), Maitra and Ray (2002), Ray (2000), Ravallion and Wodon (2000) and Edmonds (2005) for the interplay between household income and child labour and schooling.

	All	Working children	Child labourers
Household expenditure	4,804.4 (3,603.8)	4,341.4 (3,169.2)	4,357.8 (3,244.8)
Household income	5,733 (4,460.9)	5,354.46 (4,220.1)	5,415.8 (4,356)
Household expenditure per adult equivalent*	2,265.4 (1,901.4)	1,920.5 (1,331.1)	1,934.4 (1,369.3)
Household income per adult equivalent*	2,691.8 (2,138.6)	2,368.8 (1,782.1)	2,399.7 (1,837.5)

Notes: Figures in parentheses are standard deviations.

*Income and expenditures are corrected for household size and composition using a two- parameter adult equivalence scale, where the first adult in the household is counted as 1, each remaining adult as 0.5 and children under age 14 as 0.3 adults.

However, as Table 2.22 shows, the relationship between household income/expenditure and child employment and child labour in Kyrgyzstan is not straightforward. For example, although appreciable drops in the prevalence of employment and child labour occur beyond the third expenditure quintile, the prevalence of both is slightly lower among households in the lowest quintile when compared to households in the second and third quintiles. Moreover, the fact that the prevalence of employment and child labour are both rather high even among children from more well-to-do households indicates work to be an integral part of the lives of the majority of children in Kyrgyzstan, regardless of household economic status.

Household expenditure	Prevalence of work	Prevalence of child labour	Distribution of children
Lowest 20%	51.82	45.53	19.29
Second 20%	54.49	47.56	22.09
Third 20%	52.47	46.22	18.02
Fourth 20%	42.16	37.62	19.87
Highest 20%	28.53	25.34	20.73
Household income			
Lowest 20%	52.58	45.93	19.71
Second 20%	47.52	41.47	21.83
Third 20%	52.01	45.90	19.97
Fourth 20%	46.53	40.96	18.61
Highest 20%	30.16	27.42	19.88

Notes: Figures in parentheses are standard deviations. Income and expenditures are corrected for household size and composition using a two- parameter adult equivalence scale, where the first adult in the household is counted as 1, each remaining adult as 0.5 and children under age 14 as 0.3 adults.

Household economic status was also assessed using an Asset Index based on the number of durable goods owned by the household,¹² which may better represent the long-term economic

¹¹ Although the income/expenditure quintiles used in this study were formed based on individuals, they do not differ appreciably from household-based assessments.

standing of the household (Filmer and Pritchett, 2001). According to CLS data, using an Asset Index ranging from 0-13, the average Asset Index score of all children aged 5-17 was 4.3 (sd. 2.3), compared to only 4 (sd. 2.1) among working children and child labourers. This finding is in line with information on household income/expenditure and confirms that households of working children are relatively less well-off compared to households of non-working children.

2.4.3 Migration status

Migrant households were found to constitute 8.4 percent of all households in Kyrgyzstan containing children aged 5-17.¹³ The average time at the household's present location was close to eight years. In the majority of cases (60.7%), the decision to migrate was based mainly on economic reasons, although other factors included schooling/training and housing opportunities, health and marital status. In only 8.4 percent of cases did social or political problems play a role in household migration.

Interestingly, the prevalence of work was found to be higher among non-migrant children (47.7%) than migrant children (22.7%). Given that most migration occurs for economic reasons and that the majority of children are employed as unpaid family workers within household establishments, the lower prevalence of work among migrant children implies a lack of those household resources that make it possible for children to work. Indeed, as measured by their level of monthly household expenditures, migrant households are considerably poorer than non-migrant households. In addition, a closer look at the employment status of migrant children in comparison to non-migrant children shows that a larger proportion of migrant children are wage workers (5.5 percent vs. 1.8 percent of non-migrant children) and a smaller proportion are own-account workers (1.5 percent vs. 3.6 percent of non-migrant children) and unpaid family workers (93 percent vs. 94.6 percent of non-migrant children).

2.4.4. Female-headed households

In Kyrgyzstan, one in four households with at least one child aged 5-17 is headed by a woman. In 88 percent of these cases, the spouse is absent from the household. Although female headship is slightly higher (22.4%) among the households of working children, the difference is not statistically significant.

2.4.5. Urban-rural differentiation

Approximately 70 percent of children in Kyrgyzstan live in rural areas, where work among children is more prevalent than in urban areas (Table 2.23). As a result, 82.6 percent of

¹² The Asset Index increases by one unit for the ownership of each of the following assets: automobile, motorbike, TV, DVD, washing machine, oven, dishwasher, refrigerator, computer, satellite dish, telephone, cell phone.

¹³ Migration status was established by asking whether the household had ever changed its place of residence.

all children in employment in Kyrgyzstan live in rural areas. For all age groups, the prevalence of work is higher for children residing in rural rather than urban areas. For example, whereas 19 percent of children aged 5-11 in urban areas are employed in economic work, this figure doubles to 38.1 percent in rural areas. Similarly, whereas less than one-third of children aged 12-14 in urban areas are employed, nearly two-thirds of children aged 12-14 in rural areas are employed, and while 35.5 of children aged 15-17 in urban areas are employed, more than double this rate (74.4%) of children aged 15-17 in rural areas are employed.

In both urban and rural areas, boys are more likely to be employed than girls; however, this discrepancy is greater in rural areas, where the ‘gender gap’ in child employment reaches 10 percent, as compared to less than two percent in urban areas. Furthermore, this gap increases significantly with age among children in rural areas, with the difference in the prevalence of work reaching 17.6 percentage points among boys and girls aged 15-17. The gender gaps in employment observed in rural areas may be explained by the significant role of animal husbandry, with activities such as grazing, which requires traveling great distances and spending extended time away from home, possibly regarded as a male activity.

Child labour rates are also higher in rural areas than in urban areas, with the difference due to the higher prevalence of work in rural areas. Child labour rates are also higher among boys than girls, with the difference in this case resulting from the higher prevalence of work among boys than girls. Child labour rates are also higher among older children than younger children; however, the prevalence of child labour is observed to be highest among children aged 12-14 rather than those aged 15-17.

Table 2.23 Prevalence of employment and child labour among children by rural/urban residence, age group and sex (%)

Child Population	Age 5-17			Age 5-11			Age 12-14			Age 15-17		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Rural Employment	54.10	59.17	48.45	38.10	41.64	34.03	65.51	71.37	59.23	74.43	82.86	65.33
Rural Child Labour	47.62	52.58	42.10	38.10	41.64	34.03	67.07	67.07	56.52	52.11	60.47	43.09
Urban Employment	26.49	27.46	25.39	19.08	17.25	17.25	30.63	31.15	30.13	35.48	38.34	32.76
Urban Child Labour	23.47	25.16	21.57	19.08	20.44	17.25	27.81	28.80	26.84	27.05	31.38	22.95

A look at the type of work children are engaged in by place of residence (Tables 2.24 and 2.25) once again highlights the dominance of agricultural activities and home production in the lives of children in both urban and rural areas. While children in rural areas are employed almost

exclusively in agricultural occupations, about 15 percent of employed children in urban areas work in non-agricultural jobs, primarily in sales and services.

Sector	Urban		Rural	
	Boys	Girls	Boys	Girls
Agriculture/fishing/hunting/forestry	13.78	5.21	29.15	12.56
Home production	70.39	80.95	69.29	85.57
Sales	8.22	7.04	0.88	0.9
Manufacturing	1.8	2.86	0.37	0.9
Hotel and restaurant	3.11	2.02	0.17	0
Other	2.7	1.92	0.14	0.07
Total (n=000)	64	53	319	235

Occupation	Urban		Rural	
	Boys	Girls	Boys	Girls
Skilled agricultural work	0.0	0.0	1.18	1.24
Service/sales work	9.76	9.75	0.91	1.00
Unskilled agricultural work	84.10	85.03	96.18	96.92
Other unskilled occupation	3.25	3.29	0.77	0.34
Others	2.90	1.93	0.96	0.50
Total (n=000)	64	53	319	235

2.4.6. Regional differentiation

The distribution of employed children among Kyrgyzstan's seven regions and two major cities is not necessarily in line with the geographic distribution of the child population (Table 2.26). For instance, while 22.1 percent of the child population lives in Osh, this region accounts for 32.4 percent of the employed children in Kyrgyzstan. In contrast, the capital city, Bishkek, which accounts for 12 percent of the national child population, accounts for only 0.7 percent of the nation's employed children.

	Distribution of all children aged 5-17 across regions	Distribution of employed children aged 5-17 across regions	Prevalence of employment within region	Prevalence of child labour within region	Proportion of children in rural areas
Batken	8.33	12.47	68.53	56.65	78.96
Jalal-Abad	21.67	25.28	53.42	46.97	75.89
Issyk-Kul	8.92	16.61	85.26	76.22	73.10
Naryn	6.0	2.64	20.17	20.03	83.47
Osh	22.13	32.35	66.92	59.72	92.64
Talas	4.28	1.82	19.49	18.20	83.08
Chui	12.33	6.84	25.41	21.56	87.57
Bishkek – City	12.03	0.68	2.6	2.43	0
Osh – City	4.32	1.3	13.78	11.67	11.08

The prevalence of child employment shows startling variation among the country's different regions, with the lowest prevalence in Bishkek, at 2.6 percent, and the highest in Issyk-Kul, at 85.3 percent. Given the high prevalence of child employment in rural areas, regions that are heavily rural may be expected to have a higher prevalence of child employment. While some CLS data supports this conjecture, there is evidence to the contrary as well. For example, in relation to the cities of Bishkek and Osh, Kyrgyzstan's other regions have a higher prevalence of child employment; however, there are also some heavily rural regions that have an unexpectedly low prevalence of child employment relative to the nation as a whole. For instance, while 83.5 percent of children in the region of Naryn and 83.1 percent of those in Talas live in rural areas, the prevalence of child employment is only 20 percent in Naryn and only 19.5 percent in Talas. In contrast, in the region of Issyk-Kul, 73.1 percent of children reside in rural areas, but the prevalence of child employment in the region as a whole is 85.3 percent.

These variations in the prevalence of child employment indicate that practices in rural areas across the country are quite differentiated, possibly due to differences in terrain, agricultural production, household characteristics and local culture. Moreover, the timing of the survey with relationship to local agricultural events may have affected the estimates of working children. For example, in the region of Talas, the prevalence of child employment jumps from an estimated 19.5 percent based on a 1-week reference period to 52.6 percent when a 12-month reference period is used. In this regard, it is clear that a longer time frame may help in understanding differences in the prevalence of child employment among regions.

SECTION 3

DETERMINANTS OF CHILD EMPLOYMENT, CHILD LABOUR AND SCHOOLING

This section of the report presents an analysis of the determinants of child employment, child labour and schooling in a multivariate framework and tries to establish the independent effects of those factors found to play a role in children's work and school outcomes.¹⁴

The following variables are noted in the literature as influencing the work and school outcomes of children:

- a. *Age of the child.* Older children are expected to be at greater risk of employment, since the “opportunity cost” of not working – i.e., the forgone wage or the loss of economic output – increases with age. The higher opportunity cost of not working also increases the likelihood of older children dropping out of school. In the specific case of Kyrgyzstan, high employment rates were found even among very young children. (In order to determine whether or not the risk of employment increases at a constant rate in line with age, the model also includes the square of age.)
- b. *Sex of the child.* The descriptive analysis provided earlier showed that girls are less likely to work than boys. There is ample evidence from developing countries that girls are more involved in household chores and less involved in market work than boys. In most cases, girls have also been found to be at a higher risk of dropping out of school than boys.
- c. *Relationship of the child to the household head.* Sons and daughters of the household head may receive more favorable treatment than other children in the household and thus may be less likely to work and more likely to attend school.
- d. *Parental age and education.* To the extent that the level of education of the overall population increases with time, younger parents are likely to be more educated, and to the extent that more educated parents also demand more schooling for their children, children with younger and more educated parents are expected to have a higher likelihood of attending school and lower likelihood of working. (Although education and age may also be indicators of household earning capacity, which would place children of younger and less-

¹⁴ In order to understand how household characteristics influence decisions regarding children's work and school attendance, married children and children from households with a household head under age 18 (a total of 37 cases) were dropped from the original sample of 7,080.

educated parents at a disadvantage, the model controls for household income status through the Asset Index, as explained below).

- e. *Female head of household.* Female headship often indicates that the male breadwinner is either absent from the household or unable to work. To the extent that female-headed households have lower household incomes than male-headed households (unless income is remitted by an absent male household member), children from such households are more likely to work. Absence of the male breadwinner may also mean that the household lacks any networks to help secure employment for children. To the extent that the variable 'Asset Index' is able to control for household income, the variable 'female headship' may indicate other phenomena influencing child employment, such as the lack of business or social networks.
- f. *Age composition of the household.* Age composition is determined based on a series of variables that identify the number of dependents and working-age adults in the household. The higher the number of dependents in a household, the more likely that a child will work and not attend school.
- g. *Migration status of the household head and years at the present location.* Migration status may play a role in the prevalence of child labour. While on the one hand, recent migrants may lack necessary resources and view child labour as a coping strategy, on the other hand, as new residents, they may lack the networks required to find employment for themselves as well as for their children.
- h. *Unexpected events.* Households that have experienced a sudden fall in income as a result of an unexpected event such as the death of a household member, drought or loss of animals may react by putting their children to work. To see whether or not this conjecture is borne out by the data, the model includes a variable to identifying households that have experienced a sudden change in income.
- i. *Agricultural assets.* Studies have repeatedly shown that children are more likely to work when a household establishment exists. (See, for instance, Bhalotra, 2001; Bhalotra and Heady, 2003; Grootaert and Kanbur, 1995; Assaad et al, 2004; Dayioğlu 2005, 2006.) Furthermore, agricultural assets such as land have been found to increase children's likelihood of employment (Bhalotra, 2001; Bhalotra and Heady, 2003). To identify the effect of agricultural assets on children's employment in Kyrgyzstan, the model controls for different types of assets owned by the household, such as arable land, tractors and livestock.
- j. *Household assets.* The Asset Index is constructed based on household durable goods (television, refrigerator, etc.) and is used to examine the economic standing of the household

and its role in determining children's employment. This variable is preferred over the income and expenditure variables available in the survey data set for the primary reason that the Asset Index is more likely to provide a better representation of the long-term economic standing of the household.

- k. *Region of residence.* Agricultural practices, local labour markets, quality and availability of schooling and local cultural practices may differ from one region to another, reflecting differently on children's work and school outcomes. This analysis differentiates among seven regions and the cities of Bishkek and Osh.
- l. *Urban/rural residence.* The prevalence of child work is likely to be higher and demand for schooling lower in rural areas than in urban areas. This analysis differentiates between rural and urban areas for each of the regions examined.

3.1. Determinants of child employment

The results of multivariate analysis of child employment are provided in Table 3.1. As the table shows, two models were constructed. With the exception of the reference period used in establishing children's employment – the week preceding the survey in Model 1 and the year preceding the survey in Model 2 – Model 1 and Model 2 are identical. Model 1 is consistent with the descriptive statistics presented earlier (See Section 2), in which the week preceding the survey was generally taken to measure child employment. Model 2 aims to provide a robustness check on the main results. (Except where otherwise noted, the analysis below refers to findings from Model 1.)

A child's age was found to be an important determinant of his/her likelihood of employment, using both the short- and long-term reference periods to define employment status. The probability of employment increases with age, but at a decreasing rather than constant rate, as indicated by a significant negative coefficient of age squared. Boys were found to be more likely to be employed than girls, which may be related to the increase in girls' involvement in household chores as they get older.

Whether or not a child was the son or daughter of the household head did not have an effect on his/her likelihood of employment. In fact, very few children were found to live in a household without their biological mother or father, which indicates that live-in servants, foster parenting and similar practices are not common in Kyrgyzstan.

An increase in the father's schooling reduces the probability that a child will work. Children whose fathers have received secondary vocational training or a university education are less likely to be employed than children whose fathers have received less than secondary

education. When a longer time frame is used (Model 2), the father's schooling seems to have a greater impact on a child's employment status; in this case, all schooling levels other than primary vocational training decrease the likelihood of children's employment, and the impact of the schooling variables on children's likelihood of employment is greater. Although the mother's schooling is not, in general, a significant determinant of child employment, children whose mothers have received a secondary education or secondary vocational training are more likely to work than other children. This puzzling result might be due to the higher likelihood of employment among mothers with vocational training. Dayıoğlu (2008) shows for Turkey that children's employment becomes more likely when their mothers work as well. However, it should be noted that when the long-term reference period is used (Model 2), a mother's schooling is insignificant.

A father's absence from the household was not found to affect the likelihood of a child's employment, except when the long-term reference period was used, in which case this likelihood decreased. In contrast, while a mother's absence from the household was not found to affect the likelihood of a child's employment when the short-term reference period was used, when the long-term reference period was used, a mother's absence increased the likelihood of child employment. While a father's absence may imply either that the household is receiving remittances, so that there is less need for the child to work, or that the household lacks the material and human resources and the networks to employ children, the mother's absence may require a child to provide substitute earnings.

Children from larger families are less likely to work. In particular, larger numbers of working-age adults and children aged 5-17 decrease the overall likelihood of child employment, since there are more able bodies available to work. Children from migrant families do not seem to be at a higher risk of employment, nor are children who have experienced some unexpected event in the year preceding the survey, such as loss of animals, loss of a family member, or a drought. The latter finding may be partly due to the inclusion of other variables, such as livestock owned by the household and presence of parents within the household, that can account for unexpected events.

Household agricultural assets were, in general, found to be significant determinants of children's employment, but they affect it in different ways. Whereas children from households that own arable land are more likely to be employed, those from households that own a tractor – which may indicate that the household uses modern agricultural methods, has extra income from renting the tractor, and/or owns a large amount of land – are less likely to be employed. Ownership of livestock (the survey identifies cows, goats/sheep and poultry/pigs) also increases

the likelihood of child employment. The short-term reference period showed children from households that own any livestock have a higher likelihood of employment than children whose households do not own any livestock. When the long-term reference period is used (Model 2), children from households that own livestock are still found to have a higher likelihood of employment, but in this case, only the ownership of goats/sheep is significant. These findings may be due to the larger average number of goats/sheep, as opposed to other types of animals, owned by households, which would place a greater demand on children's time. While the proportion of children whose households own cows (53.4%) is greater than the proportion of those owning goats/sheep (42.2%) and poultry/pigs (40%), the number of cows owned (about 3) is less than that of goats/sheep (15) and poultry/pigs (13). The overall increased likelihood of a child's employment among households with agricultural assets is consistent with the findings in the literature (Bhalotra and Heady, 2003).

A household's possession of durable goods, as reflected by the Asset Index, decreased the likelihood of employment among children in urban areas (when the long-term reference period was used), but had no effect on children in rural areas. This indicates that agricultural work is common in rural areas of Kyrgyzstan, even among children from well-off households.

Place of residence was found to be an important predictor of child employment.¹⁵ Residence in any region other than Bishkek was found to increase the likelihood of child employment. With the exceptions of children residing in Osh city and in the region of Osh, the likelihood of employment among children in rural areas is no higher than among children in urban areas. This finding partly stems from the fact that the models are able to capture some of the variation in child employment between urban and rural areas through the inclusion of agricultural assets.

¹⁵ As shown in Table 3.1 the pseudo R squared for the full model is 0.4. This statistic drops to 0.2 when regions are omitted from the model. The high predictive power of the regions suggests that more specific region-related variables capable of capturing the variance in child employment across regions have not been identified.

Table 3.1 Likelihood of child employment based on probit equations				
	Model I (past week)		Model II (past year)	
	Coefficient (std.error)	Marginal Effect	Coefficient (std.error)	Marginal Effect
Child's age	0.456***	0.176***	0.524***	0.209***
	[0.049]	[0.019]	[0.049]	[0.020]
Age squared (1/100)	-1.214***	-0.469***	-1.414***	-0.564***
	[0.208]	[0.079]	[0.211]	[0.084]
Female child	-0.374***	-0.143***	-0.343***	-0.136***
	[0.049]	[0.019]	[0.049]	[0.019]
Own child of household head	-0.08	-0.031	-0.156	-0.062
	[0.110]	[0.043]	[0.107]	[0.042]
Age of father	-0.004	-0.002	-0.011	-0.004
	[0.007]	[0.003]	[0.007]	[0.003]
Father's educ: secondary	-0.274	-0.106	-0.341**	-0.135**
	[0.181]	[0.069]	[0.163]	[0.064]
Father's educ: primary vocational	-0.2	-0.075	-0.108	-0.043
	[0.218]	[0.079]	[0.196]	[0.078]
Father's educ: Secondary vocational	-0.439**	-0.159**	-0.462**	-0.180***
	[0.202]	[0.067]	[0.185]	[0.069]
Father's educ: university	-0.336*	-0.125*	-0.403**	-0.158**
	[0.196]	[0.069]	[0.181]	[0.069]
Father absent	-0.314	-0.117	-0.745**	-0.284**
	[0.359]	[0.129]	[0.338]	[0.117]
Female head of household	0.083	0.032	0.018	0.007
	[0.099]	[0.039]	[0.097]	[0.039]
Mother's age	0.006	0.002	0.017***	0.007***
	[0.007]	[0.003]	[0.006]	[0.003]
Mother's educ: secondary	0.250*	0.096*	0.011	0.004
	[0.152]	[0.058]	[0.137]	[0.055]
Mother's educ: primary voc	-0.046	-0.018	-0.061	-0.024
	[0.209]	[0.080]	[0.201]	[0.080]
Mother's educ: sec voc	0.357**	0.141**	0.132	0.052
	[0.167]	[0.066]	[0.152]	[0.060]
Mother's educ: university	0.174	0.068	0.01	0.004
	[0.174]	[0.069]	[0.168]	[0.067]
Mother absent	0.417	0.165	0.517*	0.199*
	[0.320]	[0.126]	[0.304]	[0.108]
No of children between 0-4	-0.015	-0.006	-0.019	-0.007
	[0.043]	[0.017]	[0.045]	[0.018]
No of children between 5-17	-0.073***	-0.028***	-0.064**	-0.025**
	[0.028]	[0.011]	[0.028]	[0.011]
No of adults between 18-64	-0.055*	-0.021*	-0.061**	-0.024**
	[0.030]	[0.012]	[0.029]	[0.011]
No of adults 65 years and above	-0.076	-0.029	0.008	0.003
	[0.080]	[0.031]	[0.074]	[0.029]
Migrant	0.163	0.064	-0.031	-0.013
	[0.170]	[0.067]	[0.159]	[0.064]
If migrant, years in present location	-0.022*	-0.009*	0.006	0.002
	[0.013]	[0.005]	[0.013]	[0.005]
Unexpected event affecting household	0.033	0.013	0.101	0.04
	[0.078]	[0.030]	[0.077]	[0.031]
HH owns arable land	0.404***	0.152***	0.419***	0.166***
	[0.090]	[0.033]	[0.095]	[0.037]
HH owns tractor	-0.445***	-0.158***	-0.290*	-0.114*
	[0.165]	[0.052]	[0.175]	[0.067]

HH own livestock	0.177**	0.068**	0.141	0.056
	[0.085]	[0.032]	[0.087]	[0.035]
No of cows	0.022*	0.009*	0.012	0.005
	[0.013]	[0.005]	[0.015]	[0.006]
No of sheep/goat	0.005***	0.002***	0.007***	0.003***
	[0.002]	[0.001]	[0.003]	[0.001]
No of poultry/pigs	0.010**	0.004**	0.005	0.002
	[0.004]	[0.002]	[0.004]	[0.002]
Asset index	-0.015	-0.006	-0.047*	-0.019*
	[0.029]	[0.011]	[0.027]	[0.011]
Asset index*rural areas	0.004	0.002	0.017	0.007
	[0.033]	[0.013]	[0.031]	[0.012]
Issyk-kul	3.287***	0.705***	2.936***	0.596***
	[0.319]	[0.019]	[0.322]	[0.019]
Issyk-kul* rural areas	-0.211	-0.079	-0.217	-0.086
	[0.305]	[0.110]	[0.322]	[0.126]
Jalal-Abad	1.981***	0.656***	1.620***	0.533***
	[0.230]	[0.049]	[0.197]	[0.045]
Jalal-Abad* rural areas	-0.018	-0.007	-0.014	-0.006
	[0.226]	[0.087]	[0.220]	[0.088]
Naryn	0.719**	0.280**	0.206	0.082
	[0.301]	[0.110]	[0.272]	[0.107]
Naryn: rural areas	-0.197	-0.074	-0.125	-0.05
	[0.316]	[0.115]	[0.294]	[0.117]
Batken	2.455***	0.654***	1.962***	0.526***
	[0.269]	[0.028]	[0.244]	[0.030]
Batken* rural areas	-0.128	-0.049	-0.14	-0.056
	[0.228]	[0.085]	[0.223]	[0.088]
Osh	3.627***	0.849***	3.239***	0.754***
	[0.282]	[0.022]	[0.248]	[0.025]
Osh*rural areas	-1.343***	-0.416***	-1.255***	-0.444***
	[0.241]	[0.050]	[0.232]	[0.063]
Talas	0.773**	0.299**	1.341***	0.421***
	[0.365]	[0.130]	[0.267]	[0.051]
Talas*rural areas	-0.242	-0.09	-0.013	-0.005
	[0.373]	[0.132]	[0.296]	[0.118]
Chui	0.749**	0.292**	0.386	0.151
	[0.349]	[0.129]	[0.326]	[0.123]
Chui* rural areas	0.148	0.058	0.42	0.164
	[0.321]	[0.127]	[0.319]	[0.119]
Osh city	0.625***	0.245***	0.519***	0.199***
	[0.221]	[0.083]	[0.173]	[0.061]
Osh city*rural areas	0.685*	0.267*	0.583*	0.220*
	[0.393]	[0.143]	[0.325]	[0.109]
Constant	-5.226***		-4.912***	
	[0.481]		[0.446]	
Observed probability	0.458		0.519	
Predicted probability at mean	0.400		0.504	
Wald chi2(34)	1251.49		1291.86	
Prob > chi2	0.000		0.000	
Pseudo R²	0.400		0.400	
Observations	7,043		7,043	
Notes: Robust standard errors in brackets. Covers children aged 5-17 years. Reference categories for dummy variables include lower than secondary education for maternal and paternal schooling and the city of Bishkek for regions.				
* significant at 10%; ** significant at 5%; *** significant at 1%.				

3.1.1 Differences in determinants of employment for boys and girls

Variations in the determinants of boys and girls employment were analysed by running the models separately for the two groups (Table 3.2). Boys were found to have a higher likelihood of employment than girls, regardless of whether the short-term or long-term reference period was used. In the former case, the likelihood of employment was found to be 45.6 percent for boys and 31.7 percent for girls, and in the latter case, the likelihood of employment increased to 55.8 percent for boys and 43.6 percent for girls.

As mentioned earlier, the likelihood of employment increases with age, but the rate of increase slows down as children become older. However, when the rate of increase among boys and girls is compared, slower increases are observed for the latter (age squared has a larger coefficient and marginal effect for girls than for boys). As a result, while the gap in the employment rate between young boys and girls is rather small, this gap widens as children grow up, which is suggestive of diverging gender roles.

Parental education was seen to have an effect on the probability of employment for boys, but not for girls, with paternal education above primary vocational school decreasing the likelihood of employment and secondary and secondary vocational maternal education increasing the likelihood of employment.

Neither paternal nor maternal age is important in determining boys' employment. However, girls with older mothers are more likely to work, perhaps as a substitute for them, whereas girls with older fathers are less likely to work (although the latter effect is only of marginal statistical significance and only observed when the short-term reference period is used).

An absent mother increases the likelihood of girls' employment, but has no effect on boys' employment, indicating that girls are more likely to substitute for their mothers than boys. An absent father decreases the likelihood of girls' employment, (although the effect is only marginally significant at 10%), but has no effect on the probability of boys' employment.

While a large household decreases the likelihood of work for both boys and girls, household composition affects the two groups differently. A larger number of working-age adults decreases the probability of girls' employment, but has no effect on boys. More children aged 5-17 in the household reduces the probability of girls' employment, regardless of the reference period used, whereas this factor was only found to reduce the likelihood of boys' employment when a short-term reference period is used and even then, it is only marginally significant. Interestingly, the presence in the household of children younger than five decreases the probability of employment for boys, but not of girls.

The migration status of the household affects the employment probability of girls but not boys, with girls from migrant families more likely to work than other girls. However, the effect of migration was seen to diminish with years at the present location and was only found to affect the likelihood of employment when the one-year reference period was used.

While the likelihood of employment is higher for both girls and boys from households that own arable land or livestock, variations are observed according to the type of livestock owned by the household and the time frame used to define employment. When the short-term reference period is used, the ownership of cows or poultry/pigs is found to increase the likelihood of employment among girls, but when the long-term reference period is used, the ownership of goats/sheep increases the likelihood of girls' employment (although this effect is only significant at 10%). For boys, ownership of goats/sheep increases the probability of employment, regardless of whether the short-term or long-term reference period is used. Ownership of poultry/pigs also increases the likelihood of boys' employment when the short-term reference period is used (but the effect is only marginally significant). The differences in the impact of livestock on boys' and girls' employment points to distinct gender roles within animal husbandry.

When the long-term reference period is used, girls' employment in urban areas is shown to be significantly affected by socio-economic status, as reflected by the Asset Index, with girls from wealthier households less likely to work than other girls. Surprisingly, socio-economic status, as reflected by the Asset Index, does not have a significant effect on boys' employment.

Place of residence is a significant determinant of both boys' and girls' employment. Children from Bishkek are less likely to work than children from other regions, with some minor exceptions. For example, the likelihood of employment is lower among girls from Naryn (according to the long-term reference period) and higher among girls from Chui (according to the short-term reference period) than among girls from other regions, whereas the likelihood of employment among girls from Talas is similar to that of girls from Bishkek (according to the short-term reference period). The likelihood of employment among boys residing in Naryn (according to the long-term reference period) and in Chui (according to the short-term reference period) is also similar to that of boys residing in Bishkek.

In general, residence in rural areas does not exert any additional effect on the employment of either boys or girls; however, both boys and girls residing in rural areas of the region of Osh are less likely to be employed than other children, whereas boys residing in rural areas of Osh city are more likely to be employed than other children.

	Boys				Girls			
	Model I (past week)		Model II (past year)		Model I (past week)		Model II (past year)	
	Co-eff. (std. Error)	Marginal Effect	Co-eff. (std. Error)	Marginal Effect	Co-eff. (std. Error)	Marginal Effect	Co-eff. (std. Error)	Marginal Effect
Child's age	0.423*** [0.069]	0.168*** [0.027]	0.486*** [0.068]	0.192*** [0.027]	0.487*** [0.066]	0.173*** [0.023]	0.558*** [0.067]	0.220*** [0.026]
Age squared (1/100)	-0.977*** [0.292]	-0.387*** [0.115]	-1.160*** [0.293]	-0.458*** [0.116]	-1.425*** [0.278]	-0.507*** [0.099]	-1.624*** [0.283]	-0.640*** [0.111]
Own child of household head	-0.058 [0.145]	-0.023 [0.058]	-0.091 [0.140]	-0.036 [0.055]	-0.144 [0.161]	-0.052 [0.059]	-0.252* [0.150]	-0.100* [0.060]
Age of father	0.005 [0.009]	0.002 [0.003]	-0.009 [0.009]	-0.004 [0.004]	-0.017* [0.009]	-0.006* [0.003]	-0.013 [0.008]	-0.005 [0.003]
Father's educ: secondary	-0.282 [0.242]	-0.112 [0.095]	-0.363 [0.225]	-0.143 [0.088]	-0.277 [0.230]	-0.098 [0.081]	-0.301 [0.213]	-0.118 [0.083]
Father's educ: primary vocational	-0.155 [0.287]	-0.061 [0.111]	-0.158 [0.267]	-0.063 [0.107]	-0.348 [0.272]	-0.113 [0.079]	-0.104 [0.253]	-0.04 [0.098]
Father's educ: Secondary vocational	-0.555** [0.270]	-0.207** [0.091]	-0.646** [0.257]	-0.252*** [0.094]	-0.284 [0.261]	-0.095 [0.081]	-0.216 [0.240]	-0.083 [0.090]
Father's educ: university	-0.516** [0.253]	-0.195** [0.089]	-0.714*** [0.240]	-0.277*** [0.087]	-0.091 [0.264]	-0.032 [0.091]	0.002 [0.244]	0.001 [0.096]
Father absent	0.082 [0.453]	0.033 [0.180]	-0.721 [0.449]	-0.281 [0.165]	-0.859* [0.502]	-0.256* [0.118]	-0.784* [0.464]	-0.282* [0.144]
Female head of household	0.061 [0.129]	0.024 [0.051]	0.018 [0.133]	0.007 [0.052]	0.073 [0.145]	0.026 [0.053]	0.013 [0.129]	0.005 [0.051]
Mother's age	-0.012 [0.009]	-0.005 [0.003]	0.005 [0.008]	0.002 [0.003]	0.031*** [0.009]	0.011*** [0.003]	0.034*** [0.009]	0.013*** [0.004]
Mother's education: secondary	0.321* [0.175]	0.126* [0.068]	0.061 [0.162]	0.024 [0.064]	0.058 [0.223]	0.021 [0.079]	-0.097 [0.212]	-0.038 [0.084]
Mother's education: primary vocational	0.128 [0.240]	0.051 [0.096]	0.111 [0.257]	0.043 [0.099]	-0.406 [0.321]	-0.13 [0.089]	-0.332 [0.293]	-0.126 [0.105]
Mother's education: secondary vocational	0.473** [0.195]	0.186** [0.075]	0.278 [0.180]	0.107 [0.067]	0.147 [0.251]	0.054 [0.094]	-0.079 [0.236]	-0.031 [0.092]
Mother's education: university	0.07 [0.202]	0.028 [0.081]	0.044 [0.213]	0.017 [0.084]	0.188 [0.255]	0.069 [0.096]	-0.11 [0.243]	-0.043 [0.094]
Mother absent	-0.223 [0.392]	-0.087 [0.149]	0.082 [0.385]	0.032 [0.150]	1.247*** [0.462]	0.467*** [0.148]	1.060** [0.442]	0.389*** [0.130]
No of children between 0-4	-0.108* [0.058]	-0.043* [0.023]	-0.108* [0.060]	-0.043* [0.024]	0.083 [0.056]	0.03 [0.020]	0.077 [0.056]	0.03 [0.022]
No of children between 5-17	-0.064* [0.035]	-0.025* [0.014]	-0.033 [0.035]	-0.013 [0.014]	-0.078** [0.039]	-0.028** [0.014]	-0.098** [0.038]	-0.039** [0.015]
No of adults between 18-64	-0.036 [0.040]	-0.014 [0.016]	-0.029 [0.039]	-0.012 [0.015]	-0.076** [0.038]	-0.027** [0.013]	-0.102*** [0.038]	-0.040*** [0.015]
No of adults 65 years and above	-0.11 [0.100]	-0.044 [0.040]	0.049 [0.093]	0.019 [0.037]	-0.022 [0.113]	-0.008 [0.040]	-0.032 [0.107]	-0.012 [0.042]
Migrant	0.046 [0.218]	0.018 [0.087]	0.026 [0.224]	0.01 [0.088]	0.354* [0.214]	0.133* [0.083]	-0.087 [0.209]	-0.034 [0.081]
If migrant, years in present location	-0.008 [0.017]	-0.003 [0.007]	0.000 [0.017]	0.000 [0.007]	-0.047*** [0.017]	-0.017*** [0.006]	0.01 [0.018]	0.004 [0.007]
Unexpected event affecting household	0.051 [0.105]	0.02 [0.042]	0.054 [0.106]	0.021 [0.042]	0.038 [0.102]	0.014 [0.037]	0.155 [0.100]	0.061 [0.040]
Household owns arable land	0.482*** [0.113]	0.187*** [0.042]	0.457*** [0.130]	0.180*** [0.051]	0.367*** [0.121]	0.126*** [0.040]	0.406*** [0.117]	0.157*** [0.044]
Household owns tractor	-0.336* [0.201]	-0.129* [0.073]	0.005 [0.222]	0.002 [0.088]	-0.535** [0.232]	-0.162*** [0.057]	-0.500** [0.241]	-0.182** [0.079]

Household owns livestock	0.162	0.064	0.077	0.03	0.118	0.042	0.197*	0.077*
	[0.108]	[0.043]	[0.117]	[0.046]	[0.118]	[0.042]	[0.117]	[0.045]
No of cows	0.012	0.005	0.005	0.002	0.046***	0.016***	0.024	0.009
	[0.018]	[0.007]	[0.019]	[0.008]	[0.017]	[0.006]	[0.022]	[0.009]
No of sheep/goat	0.009***	0.004***	0.008**	0.003**	0.001	0.000	0.006*	0.002*
	[0.003]	[0.001]	[0.004]	[0.001]	[0.003]	[0.001]	[0.003]	[0.001]
No of poultry/pigs	0.012*	0.005*	0.009	0.003	0.011**	0.004**	0.004	0.002
	[0.006]	[0.002]	[0.006]	[0.002]	[0.005]	[0.002]	[0.005]	[0.002]
Asset index	0.011	0.004	-0.022	-0.009	-0.047	-0.017	-0.075**	-0.029**
	[0.035]	[0.014]	[0.033]	[0.013]	[0.039]	[0.014]	[0.035]	[0.014]
Asset index*rural areas	-0.013	-0.005	-0.002	-0.001	0.02	0.007	0.034	0.013
	[0.041]	[0.016]	[0.040]	[0.016]	[0.044]	[0.016]	[0.041]	[0.016]
Issyk-kul	2.993***	0.637***	2.638***	0.526***	3.792***	0.798***	3.343***	0.683***
	[0.398]	[0.029]	[0.365]	[0.026]	[0.384]	[0.018]	[0.393]	[0.021]
Issyk-kul* rural areas	0.208	0.083	0.208	0.081	-0.762*	-0.218**	-0.689	-0.244*
	[0.362]	[0.144]	[0.376]	[0.142]	[0.409]	[0.086]	[0.423]	[0.126]
Jalal-Abad	1.986***	0.629***	1.647***	0.506***	2.067***	0.696***	1.682***	0.579***
	[0.323]	[0.064]	[0.270]	[0.056]	[0.254]	[0.057]	[0.232]	[0.056]
Jalal-Abad * rural areas	0.05	0.02	0.088	0.035	-0.107	-0.038	-0.142	-0.055
	[0.275]	[0.110]	[0.275]	[0.108]	[0.295]	[0.101]	[0.285]	[0.110]
Naryn	0.936***	0.345***	0.451	0.168	-0.432	-0.137	-1.037**	-0.332**
	[0.360]	[0.111]	[0.315]	[0.109]	[0.443]	[0.123]	[0.428]	[0.095]
Naryn* rural areas	0.055	0.022	0.185	0.072	-0.151	-0.052	0.21	0.083
	[0.348]	[0.139]	[0.325]	[0.123]	[0.505]	[0.167]	[0.502]	[0.200]
Batken	2.384***	0.610***	1.943***	0.486***	2.774***	0.734***	2.120***	0.589***
	[0.360]	[0.039]	[0.316]	[0.037]	[0.385]	[0.030]	[0.373]	[0.041]
Batken* rural areas	-0.151	-0.059	-0.148	-0.059	-0.197	-0.067	-0.161	-0.062
	[0.294]	[0.114]	[0.278]	[0.111]	[0.349]	[0.113]	[0.359]	[0.137]
Osh	3.316***	0.794***	2.928***	0.684***	4.051***	0.912***	3.634***	0.830***
	[0.415]	[0.040]	[0.352]	[0.041]	[0.336]	[0.017]	[0.319]	[0.024]
Osh* rural areas	-1.026***	-0.362***	-0.873***	-0.336***	-1.693***	-0.414***	-1.665***	-0.502***
	[0.306]	[0.086]	[0.298]	[0.104]	[0.358]	[0.052]	[0.351]	[0.065]
Talas	1.217***	0.419***	1.637***	0.427***	0.34	0.128	1.099**	0.396***
	[0.461]	[0.112]	[0.303]	[0.038]	[0.614]	[0.241]	[0.433]	[0.119]
Talas* rural areas	-0.272	-0.105	-0.031	-0.012	-0.714	-0.204	-0.04	-0.016
	[0.441]	[0.164]	[0.325]	[0.129]	[0.652]	[0.135]	[0.462]	[0.181]
Chui	0.754	0.29	0.417	0.158	0.878**	0.336**	0.445	0.176
	[0.510]	[0.179]	[0.466]	[0.166]	[0.385]	[0.145]	[0.393]	[0.153]
Chui* rural areas	0.309	0.123	0.536	0.199	-0.157	-0.054	0.217	0.086
	[0.419]	[0.165]	[0.418]	[0.141]	[0.421]	[0.140]	[0.434]	[0.173]
Osh city	0.627**	0.243**	0.431*	0.161*	0.615**	0.237**	0.626***	0.244***
	[0.312]	[0.112]	[0.247]	[0.086]	[0.268]	[0.105]	[0.205]	[0.075]
Osh city* rural areas	1.208***	0.409***	1.109***	0.339***	0.081	0.029	-0.013	-0.005
	[0.458]	[0.101]	[0.426]	[0.079]	[0.623]	[0.230]	[0.521]	[0.205]
Constant	-5.159***		-4.743***		-5.738***		-5.535***	
	[0.658]		[0.601]		[0.592]		[0.544]	
Observed probability	0.495		0.552		0.416		0.482	
Predicted probability at mean	0.456		0.558		0.317		0.436	
Wald chi2(34)	751.54		697.31		771.52		803.61	
Prob > chi2	0.000		0.000		0.000		0.000	
Pseudo R²	0.401		0.407		0.440		0.418	
Observations	3,667		3,667		3,376		3,376	

Notes: Robust standard errors in brackets. Covers children aged 5-17 years. Reference categories for dummy variables include lower than secondary education for maternal and paternal schooling and the city of Bishkek for regions.

* significant at 10%; ** significant at 5%; *** significant at 1 %.

3.2. Determinants of child labour

In line with the great overlap between child employment and child labour in Kyrgyzstan (only about 12% of working children are not classified as child labourers), the determinants of the two show similarities (see Table 3.3). For instance, age is an important determinant of both employment and child-labour status. As noted for employment, the likelihood of becoming a child labourer increases with age, but at a decreasing rate; however, in the case of child labour, this increase peaks at around 13 years of age and decreases thereafter. This pattern may be explained by the fact that older children are allowed to work for more hours than younger children before they are classified as child labourers (see definitions, Section 1.3).

Again, in parallel to the findings on child employment, boys are more likely to become child labourers than girls. Children whose fathers have a secondary education or more are less likely to become child labourers than other children (with the exception of those whose fathers have primary vocational education). Although maternal schooling in general is not a significant determinant of child labour, children whose mothers have secondary vocational education stand at a higher risk of becoming child labourers than other children. Children whose mothers are absent from the household are also more likely to become child labourers than other children.

An increase in the number of working-age adults and children aged 5-17 in a household decreases the likelihood of child labour. In contrast, the likelihood of child labour increases in households that own arable land and livestock, with the number of goats/sheep, in particular, found to be an important determinant of child labour. Surprisingly, low socio-economic status, as reflected by the Asset Index, was not a statistically significant risk factor for child labour in either urban or rural areas.

Region of residence was also found to affect child labour, with children residing in Bishkek at a lower risk of becoming child labourers than children residing in other regions or the city of Osh. Children residing in rural areas were not found to stand at a higher risk of becoming child labourers than children in urban areas. This finding may be due to the fact that other variables, such as ownership of agricultural assets, are able to capture specific characteristics of rural life that have an effect on child labour.

Table 3.3 Likelihood of child labour according to probit equation results

	All Children		Boys		Girls	
	Coefficient (std.error)	Marginal Effect (std.error)	Coefficient (std.error)	Marginal Effect (std.error)	Coefficient (std.error)	Marginal Effect (std.error)
Child's age	0.664*** [0.049]	0.243*** [0.017]	0.627*** [0.067]	0.240*** [0.024]	0.738*** [0.067]	0.240*** [0.021]
Age squared (1/100)	-2.523*** [0.208]	-0.921*** [0.073]	-2.298*** [0.286]	-0.879*** [0.106]	-2.922*** [0.288]	-0.949*** [0.091]
Female child	-0.323*** [0.045]	-0.117*** [0.016]				
Own child of household head	-0.03 [0.107]	-0.011 [0.039]	0.032 [0.132]	0.012 [0.050]	-0.146 [0.160]	-0.049 [0.055]
Age of father	-0.009 [0.007]	-0.003 [0.002]	0.001 [0.008]	0.000 [0.003]	-0.024*** [0.009]	-0.008*** [0.003]
Father's educ: secondary	-0.380** [0.161]	-0.138** [0.058]	-0.375* [0.213]	-0.142* [0.080]	-0.444** [0.216]	-0.143** [0.069]
Father's educ: primary vocational	-0.218 [0.199]	-0.076 [0.065]	-0.108 [0.258]	-0.041 [0.096]	-0.428* [0.257]	-0.120* [0.061]
Father's educ: secondary vocational	-0.505*** [0.180]	-0.165*** [0.051]	-0.623*** [0.238]	-0.213*** [0.069]	-0.367 [0.237]	-0.107 [0.061]
Father's educ: university	-0.407** [0.171]	-0.138*** [0.053]	-0.502** [0.225]	-0.178** [0.072]	-0.314 [0.233]	-0.094 [0.064]
Father absent	-0.618* [0.341]	-0.202** [0.097]	-0.132 [0.427]	-0.05 [0.159]	-1.324*** [0.498]	-0.304*** [0.072]
Female head of household	0.047 [0.093]	0.017 [0.035]	0.023 [0.120]	0.009 [0.046]	0.039 [0.135]	0.013 [0.044]
Mother's age	0.009 [0.006]	0.003 [0.002]	-0.007 [0.008]	-0.003 [0.003]	0.032*** [0.009]	0.011*** [0.003]
Mother's educ: secondary	0.227 [0.138]	0.082 [0.050]	0.256 [0.166]	0.097 [0.062]	0.134 [0.215]	0.043 [0.069]
Mother's educ: primary vocational	-0.054 [0.190]	-0.02 [0.068]	0.052 [0.230]	0.02 [0.089]	-0.319 [0.307]	-0.094 [0.079]
Mother's educ: secondary vocational	0.322** [0.153]	0.122** [0.060]	0.410** [0.185]	0.161** [0.073]	0.161 [0.239]	0.054 [0.083]
Mother's educ: university	0.093 [0.161]	0.035 [0.060]	-0.04 [0.190]	-0.015 [0.072]	0.172 [0.243]	0.058 [0.085]
Mother absent	0.531* [0.304]	0.205* [0.120]	-0.09 [0.369]	-0.034 [0.138]	1.359*** [0.444]	0.502*** [0.146]
No of children between 0-4	0.008 [0.042]	0.003 [0.015]	-0.076 [0.056]	-0.029 [0.022]	0.095* [0.053]	0.031* [0.017]
No of children between 5-17	-0.065** [0.026]	-0.024** [0.010]	-0.043 [0.033]	-0.017 [0.013]	-0.085** [0.035]	-0.028** [0.011]
No of adults between 18-64	-0.059** [0.028]	-0.021** [0.010]	-0.04 [0.037]	-0.015 [0.014]	-0.078** [0.036]	-0.025** [0.012]
No of adults 65 years and above	-0.018 [0.077]	-0.006 [0.028]	-0.032 [0.093]	-0.012 [0.036]	-0.006 [0.114]	-0.002 [0.037]
Migrant	0.267 [0.165]	0.101 [0.064]	0.339* [0.205]	0.133* [0.081]	0.183 [0.220]	0.062 [0.078]
If migrant, years in present location	-0.026* [0.014]	-0.009* [0.005]	-0.027* [0.016]	-0.010* [0.006]	-0.027 [0.017]	-0.009 [0.006]
Unexpected event affecting household	0.055 [0.073]	0.02 [0.027]	0.021 [0.096]	0.008 [0.037]	0.136 [0.096]	0.045 [0.033]
HH owns arable land	0.333*** [0.086]	0.118*** [0.030]	0.408*** [0.107]	0.152*** [0.038]	0.273** [0.119]	0.086** [0.036]
HH owns tractor	-0.301* [0.165]	-0.102* [0.064]	-0.312 [0.205]	-0.113 [0.081]	-0.319 [0.220]	-0.093 [0.078]

	[0.162]	[0.050]	[0.202]	[0.068]	[0.219]	[0.056]
HH own livestock	0.180**	0.065**	0.135	0.051	0.176	0.056
	[0.081]	[0.029]	[0.102]	[0.039]	[0.116]	[0.037]
No of cows	0.020*	0.007*	0.019	0.007	0.029*	0.009*
	[0.012]	[0.004]	[0.016]	[0.006]	[0.016]	[0.005]
No of sheep/goat	0.006***	0.002***	0.010***	0.004***	0.003	0.001
	[0.002]	[0.001]	[0.003]	[0.001]	[0.002]	[0.001]
No of poultry/pigs	0.007*	0.003*	0.008	0.003	0.007	0.002
	[0.004]	[0.001]	[0.005]	[0.002]	[0.005]	[0.002]
Asset index	-0.005	-0.002	0.013	0.005	-0.033	-0.011
	[0.027]	[0.010]	[0.032]	[0.012]	[0.036]	[0.012]
Asset index*rural areas	0.022	0.008	0.017	0.007	0.033	0.011
	[0.031]	[0.011]	[0.038]	[0.015]	[0.041]	[0.013]
Issyk-kul	2.807***	0.733***	2.692***	0.682***	3.032***	0.806***
	[0.250]	[0.022]	[0.338]	[0.031]	[0.286]	[0.023]
Issyk-kul* rural areas	-0.424	-0.140*	-0.387	-0.138	-0.585*	-0.156*
	[0.263]	[0.076]	[0.322]	[0.105]	[0.346]	[0.072]
Jalal-Abad	1.745***	0.616***	1.724***	0.601***	1.820***	0.632***
	[0.218]	[0.058]	[0.296]	[0.075]	[0.253]	[0.070]
Jalal-Abad* rural areas	-0.14	-0.05	-0.114	-0.043	-0.211	-0.065
	[0.210]	[0.073]	[0.252]	[0.094]	[0.275]	[0.081]
Naryn	0.741**	0.288**	1.013***	0.383***	-0.512	-0.14
	[0.320]	[0.122]	[0.370]	[0.121]	[0.464]	[0.103]
Naryn* rural areas	-0.231	-0.08	-0.135	-0.051	-0.005	-0.002
	[0.331]	[0.108]	[0.362]	[0.133]	[0.519]	[0.168]
Batken	1.795***	0.606***	1.717***	0.571***	2.001***	0.672***
	[0.272]	[0.057]	[0.349]	[0.072]	[0.405]	[0.082]
Batken* rural areas	0.05	0.018	0.03	0.012	0.022	0.007
	[0.237]	[0.088]	[0.296]	[0.114]	[0.364]	[0.120]
Osh	3.228***	0.854***	2.899***	0.799***	3.627***	0.911***
	[0.265]	[0.025]	[0.373]	[0.044]	[0.340]	[0.022]
Osh* rural areas	-1.337***	-0.373***	-1.102***	-0.353***	-1.620***	-0.352***
	[0.227]	[0.041]	[0.283]	[0.066]	[0.344]	[0.046]
Talas	0.745**	0.290**	1.066**	0.399***	0.333	0.118
	[0.354]	[0.135]	[0.441]	[0.137]	[0.567]	[0.213]
Talas* rural areas	-0.277	-0.095	-0.254	-0.093	-0.806	-0.192
	[0.358]	[0.113]	[0.431]	[0.149]	[0.610]	[0.093]
Chui	0.745**	0.288**	0.698	0.273	0.904**	0.335**
	[0.342]	[0.131]	[0.482]	[0.182]	[0.405]	[0.154]
Chui* rural areas	-0.038	-0.014	0.035	0.013	-0.275	-0.083
	[0.314]	[0.113]	[0.406]	[0.156]	[0.415]	[0.115]
Osh city	0.649***	0.253***	0.662**	0.259**	0.632**	0.234**
	[0.216]	[0.084]	[0.292]	[0.110]	[0.285]	[0.112]
Osh city*rural	0.191	0.072	0.561	0.221	-0.324	-0.094
	[0.417]	[0.162]	[0.456]	[0.175]	[0.687]	[0.173]
Constant	-5.542***		-5.473***		-6.031***	
	[0.458]		[0.624]		[0.591]	
Observed probability	0.403		0.443		0.360	
Predicted probability at mean	0.337		0.386		0.261	
Wald chi2(34)	1087.39		625.22		665.19	
Prob > chi2	0.000		0.000		0.000	
Pseudo R ²	0.298		0.292		0.342	
Observations	7,043		3,667		3,376	
Notes: Robust standard errors in brackets. Covers children aged 5-17 years. Reference categories for dummy variables include lower than secondary education for maternal and paternal schooling and the city of Bishkek for regions.						
* significant at 10%; ** significant at 5%; *** significant at 1 %.						

3.2.1 Differences in determinants of child labour for boys and girls

As Table 3.3 shows, the risk of child labour is higher for boys (38.6%) than girls (26.1%). Although age had a similar effect on the risk of child labour for both boys and girls (peaking at around age 13-14 and decreasing thereafter), other determinants of child labour vary between boys and girls.

For girls, an older or absent father decreases the likelihood of child labour, whereas an older or absent mother increases the likelihood of child labour; however, none of these factors have any effect on the likelihood of child labour for boys.

Levels of parental education also have somewhat different effects on boys and girls. Although an increase in the father's schooling reduces the risk of child labour for both boys and girls, the amount of risk reduction is greater for boys than for girls. In contrast, changes in mothers' educational levels were not found to affect girls or boys, with the exception of boys whose mothers have received secondary vocational training, who are at an increased risk of becoming child labourers.

Changes in household composition were found to have an effect on girls but not on boys. Girls from households with more working-age adults and children aged 5-17 were found to be at a reduced risk of child labour, whereas girls from households with more young children (aged 0-4) were at an increased risk of child labour.

Household agricultural assets, namely, ownership of arable land and livestock, increase the likelihood of child labour for both boys and girls, although through different mechanisms. In parallel to the earlier findings on employment, while the number of goats/sheep owned by the household is found to be particularly important in determining the child-labour status of boys, the status of girls is affected by the number of cows owned by the household.

While region of residence was found to be an important determinant of child labour for both boys and girls, with those residing outside of Bishkek to be at an increased risk for child labour, the impact of region differs for boys and girls. For instance, boys who reside in urban areas in the regions of Naryn and Talas are more likely to become child labourers than girls residing in the same areas.

3.3. Determinants of school attendance

School attendance among children aged 7-17 is nearly universal in Kyrgyzstan, and age alone is a good predictor of school attendance. Indeed, an age-only model predicts a school

attendance rate of 98 percent, compared to the observed probability of 96.1 percent.¹⁶ High rates of school attendance independent of individual and household-level factors indicate that schooling as an institution is well-established in Kyrgyzstan. Nevertheless, the likelihood of attending school varies by age, increasing initially (indicating ‘late starters’), peaking at age 11, and then dropping to its lowest rate at age 17 (children beyond the age of compulsory education).

Factors other than age that have an important influence on school attendance include the sex of the child, the mother’s level of education, household composition, household agricultural and durable assets and region of residence.

In contrast to the usual finding in developing countries, where the education of girls often lags behind that of boys by a wide margin, girls in Kyrgyzstan are more likely to attend school than boys.

While the father’s level of education does not affect a child’s school attendance, children whose mothers have completed secondary education are more likely to attend school than children whose mothers are less educated.

Children are less likely to attend school if their household includes small children (aged 0-4) or elderly (aged 65 and above) household members.

The household’s migration status, a child’s familial relationship to the household head and female household headship were not found to affect the likelihood of children’s school attendance.

Similar to the findings regarding child employment, multivariate analysis shows that the ownership of livestock and arable land also increases the likelihood of school attendance. These findings indicate that while agricultural assets increase the likelihood of child employment by creating work opportunities for children, by increasing overall household income, they also make it more likely for children to attend school.

In contrast to its strong effect on children’s employment status, region of residence does not have a comparable effect on children’s school attendance. Although school attendance is lower among children residing in Naryn, Batken, Osh, Chui and Osh City than it is for children residing in Bishkek, the observed effects for Naryn and Batken are only significant at the 10-percent level. Furthermore, unlike many other developing countries, children in rural areas of Kyrgyzstan (with the exception of those in the Chui region) are not any less likely to attend school than children in urban areas, indicating that the school infrastructure and demand for schooling do not vary significantly across urban and rural areas or regions.

¹⁶ While the full model presented here has a pseudo R squared of 0.30 (Table 4.5), when the model is fitted using age variables only, the resulting pseudo R squared is 0.19.

Table 3.4 Likelihood of school attendance according to probit equation results						
	All Children		Boys		Girls	
	Coefficient (std.error)	Marginal Effect (std.error)	Coefficient (std.error)	Marginal Effect (std.error)	Coefficient (std.error)	Marginal Effect (std.error)
Child's age	1.341***	0.032***	1.431***	0.039***	1.287***	0.016***
	[0.129]	[0.005]	[0.172]	[0.007]	[0.192]	[0.005]
Age squared (1/100)	-6.057***	-0.146***	-6.451***	-0.175***	-5.805***	-0.072***
	[0.521]	[0.021]	[0.698]	[0.032]	[0.751]	[0.020]
Female child	0.286***	0.007***				
	[0.084]	[0.002]				
Own child of household head	0.118	0.003	0.100	0.003	0.351	0.006
	[0.182]	[0.005]	[0.249]	[0.008]	[0.262]	[0.006]
Age of father	0.008	0.000	-0.003	0.000	0.034*	0.000*
	[0.011]	[0.000]	[0.014]	[0.000]	[0.018]	[0.000]
Father's educ: secondary	0.048	0.001	0.158	0.004	-0.571*	-0.008*
	[0.222]	[0.005]	[0.263]	[0.007]	[0.346]	[0.006]
Father's educ: primary vocational	-0.086	-0.002	0.109	0.003	-0.688	-0.02
	[0.260]	[0.007]	[0.316]	[0.007]	[0.435]	[0.024]
Father's educ: secondary voc.	0.107	0.002	0.539*	0.009*	-0.822**	-0.026**
	[0.246]	[0.005]	[0.309]	[0.004]	[0.364]	[0.022]
Father's educ: university	0.075	0.002	0.654*	0.011*	-0.942**	-0.031**
	[0.265]	[0.006]	[0.339]	[0.004]	[0.394]	[0.026]
Father absent	0.468	0.008	0.217	0.005	0.995	0.007
	[0.565]	[0.008]	[0.660]	[0.013]	[0.894]	[0.004]
Female head of household	-0.024	-0.001	-0.027	-0.001	0.039	0.000
	[0.145]	[0.004]	[0.192]	[0.005]	[0.190]	[0.002]
Mother's age	-0.01	0.000	0.002	0.000	-0.047**	-0.001**
	[0.011]	[0.000]	[0.013]	[0.000]	[0.019]	[0.000]
Mother's educ: secondary	0.418***	0.011***	0.259	0.007	0.846***	0.014***
	[0.162]	[0.005]	[0.209]	[0.007]	[0.244]	[0.007]
Mother's educ: primary voc.	0.671***	0.008***	0.628*	0.009*	0.828**	0.004**
	[0.247]	[0.002]	[0.339]	[0.003]	[0.346]	[0.001]
Mother's educ: secondary voc.	0.566***	0.009***	0.543**	0.009**	0.782**	0.005**
	[0.200]	[0.002]	[0.276]	[0.003]	[0.310]	[0.002]
Mother's educ: university	0.708***	0.010***	0.482*	0.009*	1.177***	0.007***
	[0.229]	[0.002]	[0.274]	[0.004]	[0.379]	[0.002]
Mother absent	-0.014	0.000	0.474	0.008	-1.277	-0.068
	[0.484]	[0.012]	[0.595]	[0.007]	[0.790]	[0.098]
No of children between 0-4	-0.113*	-0.003*	-0.098	-0.003	-0.136	-0.002
	[0.063]	[0.002]	[0.084]	[0.002]	[0.096]	[0.001]
No of children between 5-17	-0.048	-0.001	-0.044	-0.001	-0.048	-0.001
	[0.043]	[0.001]	[0.056]	[0.002]	[0.062]	[0.001]
No of adults between 18-64	-0.029	-0.001	0.022	0.001	-0.067	-0.001
	[0.041]	[0.001]	[0.060]	[0.002]	[0.050]	[0.001]
No of adults 65 years and above	-0.251**	-0.006**	-0.328**	-0.009**	-0.071	-0.001
	[0.110]	[0.003]	[0.145]	[0.004]	[0.194]	[0.002]
Migrant	-0.292	-0.009	-0.261	-0.009	-0.226	-0.004
	[0.246]	[0.011]	[0.314]	[0.014]	[0.340]	[0.007]
If migrant, years in present location	0.009	0.000	0.016	0.000	-0.008	0.000
	[0.020]	[0.000]	[0.028]	[0.001]	[0.024]	[0.000]
Unexpected event affecting HH	-0.174	-0.005	-0.112	-0.003	-0.339**	-0.006**
	[0.122]	[0.004]	[0.161]	[0.005]	[0.170]	[0.004]
HH owns arable land	0.411***	0.012***	0.438***	0.014***	0.401**	0.006**
	[0.120]	[0.004]	[0.164]	[0.006]	[0.179]	[0.003]

HH owns tractor	-0.226	-0.007	-0.4	-0.017	-0.065	-0.001
	[0.276]	[0.011]	[0.331]	[0.020]	[0.378]	[0.005]
HH own livestock	0.000	0.000	0.023	0.001	0.087	0.001
	[0.124]	[0.003]	[0.154]	[0.004]	[0.193]	[0.003]
No of cows	0.018	0.000	0.014	0.000	0.018	0.000
	[0.023]	[0.001]	[0.031]	[0.001]	[0.035]	[0.000]
No of sheep/goat	0.027***	0.001***	0.027***	0.001***	0.031**	0.000**
	[0.007]	[0.000]	[0.009]	[0.000]	[0.013]	[0.000]
No of poultry/pigs	-0.005	0.000	-0.006	0.000	-0.006	0.000
	[0.006]	[0.000]	[0.006]	[0.000]	[0.010]	[0.000]
Asset index	0.062**	0.001*	0.03	0.001	0.112**	0.001**
	[0.031]	[0.001]	[0.035]	[0.001]	[0.050]	[0.001]
Asset index*rural areas	-0.036	-0.001	0.024	0.001	-0.096*	-0.001*
	[0.039]	[0.001]	[0.044]	[0.001]	[0.057]	[0.001]
Issyk-kul	0.018	0.000	-0.072	-0.002	0.055	0.001
	[0.263]	[0.006]	[0.324]	[0.010]	[0.418]	[0.005]
Issyk-kul* rural areas	-0.453	-0.018	-0.44	-0.019	-0.564	-0.014
	[0.341]	[0.020]	[0.437]	[0.028]	[0.523]	[0.021]
Jalal-Abad	-0.146	-0.004	-0.246	-0.008	-0.005	0.000
	[0.304]	[0.009]	[0.398]	[0.015]	[0.349]	[0.004]
Jalal-Abad* rural areas	0.022	0.001	0.061	0.002	-0.22	-0.003
	[0.273]	[0.006]	[0.334]	[0.008]	[0.367]	[0.007]
Naryn	-0.797*	-0.045*	-0.839	-0.054	-0.16	-0.002
	[0.479]	[0.050]	[0.560]	[0.067]	[0.595]	[0.011]
Naryn* rural areas	0.693	0.009	0.46	0.008	0.678	0.004
	[0.504]	[0.003]	[0.605]	[0.007]	[0.724]	[0.002]
Batken	-0.741*	-0.038*	-0.63	-0.032	-0.761*	-0.023*
	[0.430]	[0.038]	[0.419]	[0.033]	[0.436]	[0.026]
Batken* rural areas	0.192	0.004				
	[0.456]	[0.007]				
Osh	-1.299***	-0.084***	-1.256***	-0.086*	-1.503***	-0.07***
	[0.326]	[0.040]	[0.410]	[0.051]	[0.440]	[0.047]
Osh* rural areas	0.992***	0.014***	0.960**	0.016***	1.044**	0.007**
	[0.334]	[0.004]	[0.385]	[0.005]	[0.446]	[0.003]
Talas	0.375	0.006	-0.462	-0.021	0.772	0.004
	[0.548]	[0.006]	[0.457]	[0.030]	[0.627]	[0.001]
Talas* rural areas	-0.565	-0.026				
	[0.603]	[0.044]				
Chui	0.355	0.006	0.188	0.004	0.508	0.004
	[0.520]	[0.007]	[0.573]	[0.011]	[0.519]	[0.003]
Chui* rural areas	-1.065**	-0.071**	-1.245**	-0.105**	-1.019*	-0.039*
	[0.536]	[0.070]	[0.553]	[0.095]	[0.575]	[0.046]
Osh city	-0.794***	-0.046***	-0.769**	-0.047**	-0.891**	-0.034**
	[0.242]	[0.025]	[0.314]	[0.033]	[0.350]	[0.027]
Constant	-5.074***		-5.674***		-4.007***	
	[0.900]		[1.147]		[1.287]	
Observed probability	0.961		0.954		0.969	
Predicted probability at mean	0.991		0.990		0.996	
Wald chi2(34)	428.90		299.67		271.37	
Prob > chi2	0.000		0.000		0.000	
Pseudo R²	0.3041		0.327		0.329	
Observations	6,189		3,235		2,954	

Notes: Robust standard errors in brackets. Covers children aged 7-17 years. Reference categories for dummy variables include lower than secondary education for maternal and paternal schooling and the city of Bishkek for regions. * significant at 10%; ** significant at 5%; *** significant at 1%.

3.3.1. Differences in determinants of school attendance for boys and girls

According to the model presented here, the predicted probabilities of school attendance for girls in Kyrgyzstan (99.6%) is slightly higher than for boys (99%), although both are very high by international standards. The variables influencing the probability of school attendance are very similar for boys and girls, although the effects of certain variables do show some differences.

Although age is a factor in the school attendance of both boys and girls, late entry and early exit is more common among boys than girls.

The effects of parental education vary. Whereas an increase in the mother's level of education increases the likelihood of school attendance for both boys and girls, the impact of the father's level of education is inconsistent. Boys whose fathers have completed secondary vocational or university education are more likely to attend school, whereas girls whose fathers have similar levels of education are less likely to attend school.

Parental age is a factor in the school attendance of girls, but not of boys, with the likelihood of attendance greater for girls with older fathers as well as for girls with younger mothers.

Household composition is a factor in the school attendance of boys, but not of girls, with the presence of elderly household members increasing the risk of non-attendance for boys.

Ownership of household assets is a factor in the school attendance of girls, but not of boys. Whereas an increase in household assets increases the likelihood of school attendance among girls in urban areas, it does not have a significant effect among girls in rural areas.

Unexpected events such as the death of a family member, loss of animals or drought during the year preceding the survey also increase the risk of non-attendance for girls, but have no effect on the school attendance of boys.

SECTION 4

HEALTH AND SCHOOL OUTCOMES OF CHILDREN IN EMPLOYMENT

Two main concerns regarding child employment are that children's health and education may suffer as a result. In order to determine to what extent children in Kyrgyzstan work in hazardous environments and the types of work-related illness/injuries they may experience, the 2007 CLS included questions designed to measure children's health and safety. The survey also included a series of questions on schooling, such as school attendance, current grade and days absent from school. It should be noted that while it is possible to compare the school-related outcomes of both working and non-working children and to establish an association between work and school based on the data from the 2007 survey, any discrepancy between the two groups cannot be interpreted as the result of a negative or positive consequence of employment, which would require modelling schooling and employment choices simultaneously.

4.1. Health outcomes of children in employment¹⁷

Questions related to health and safety were posed to all children who reported working in either the week or the year preceding the survey. They included questions on types of work-related illnesses/injuries experienced and the consequences of the most serious work-related illness/injury, as well as questions about whether or not children carry heavy loads, operate machinery/heavy equipment, or experience other adverse conditions, including harassment, at work.

An estimated 6.2 percent of children reported having suffered from a work-related illness or injury within the 12 months preceding the survey (Table 4.1). The main complaint was extreme fatigue (3.4%), followed by superficial cuts and injuries (1.5%) and sprains/dislocations (1.2%). For the great majority of children (84%), even the work-related illness/injury they considered to be the most serious did not prevent them from working or attending school (Table 4.2). Only 16 percent reported being temporarily absent from their job or school, and none of the children reported suffering from any injury serious enough to prohibit them from working or attending school permanently.

¹⁷ The analyses presented in sections 4.1 (health outcomes) and 4.2 (schooling outcomes) are based on children's responses to the relevant questions.

Type of illness/injury suffered	% of children in employment
Superficial cuts/injuries	1.54
Fracture	0.0
Dislocation/sprain	1.22
Burns, corrosions, frostbite	0.0
Respiratory-related problem	0.08
Eye problem	0.27
Skin problems	0.32
Stomach problem/diarrhoea	0.62
Fever	0.07
Extreme fatigue	3.41
Other	0.0
Any illness/injury	6.23
Total (n=000)	688

Consequence	% of children in employment experiencing an injury/illness
Not serious – did not stop work or going to school	83.63
Stopped work or attending school for a short time	16.37
Stopped work or attending school completely	-
Total (n=000)	44

An examination of children’s work environments found that an estimated 15.9 percent of children are exposed to dust/fumes, 7.6 percent to extreme heat or cold and 3.2 percent to gas or open flames (Table 4.3). These findings are not surprising, given that the overwhelming majority of children work outdoors performing agricultural work. An estimated 4.5 percent were also found to work with dangerous tools, 2.9 percent to carry heavy loads and 3.4 percent to operate machinery or heavy equipment. In addition, close to 5 percent of working children complained about mistreatment at work. Among those who did, the most common complaint was being constantly shouted at (2.9%). Less than one percent reported being physically or sexually abused. Based on these findings, it can be concluded that the work environment of about one-fifth of working children needs to be improved.

Table 4.3 Children’s exposure to hazards in the work environment	
Work environment	% of children in employment
Dust/fumes	15.86
Gas, flames	3.22
Loud noise or vibration	0.84
Extreme cold or heat	7.58
Dangerous tool	4.45
Work underground	0.17
Work at heights	0.13
Work in water/lake/pond/river	0.18
Workplace too dark or confined	0.11
Insufficient ventilation	0.33
Chemicals	0.02
Explosives	0.06
Other	0.18
Any of above	21.25
Total (n=000)	688

Table 4.4 Children’s exposure to unfavorable treatment at work	
Treatment	% of children in employment
Constantly shouted at	2.90
Repeatedly insulted	0.49
Beaten/physically hurt	0.51
Sexually abused	0.56
Other	0.0
Any of the above	3.66
Total (n=000)	688

In view of the findings related to hazards in the work environment, the finding that only around 6 percent of working children have experienced a work-related illness/injury suggests that children are protected against work-related risks. Nonetheless, reports of work-related illness and injury need to be treated with caution, as they are unable to capture any possible long-term consequences of adverse working conditions. It is also necessary to treat with caution the information provided by children about mistreatment at work, considering that the majority of children were interviewed in the company of an adult or another child. Given that the overwhelming majority of children work as unpaid family workers, and that close to 85 percent of children who complained of constantly being shouted at were unpaid family workers, it is unlikely that children would speak openly about mistreatment, since the perpetrator is likely to be a household member.¹⁸

¹⁸ In total, 13 children said they had been sexually abused (according to the relevant CLS question, “touched or had things done to you that you did not want”). Of these, 10 were unpaid family workers. The work status of the remaining 3 was unidentified, since they had not been reported as employed in the Adult Questionnaire (and because

The above findings not only highlight some of the challenges faced in trying to collect information on children’s working conditions, especially among children employed as unpaid family workers, they contradict the commonly held assumption that children are safe when they work with other family members. Clearly, greater care must be shown in trying to understand the working conditions of unpaid family workers.

4.2. Schooling outcomes of working and non-working children¹⁹

Since the CLS Adult Questionnaire does not include detailed questions on schooling, the assessment of children’s educational outcomes was based on information on school attendance, current grade and days absent from school provided by the children themselves through the Child Questionnaire.

4.2.1. School attendance rates

The overall school attendance rate of children aged 5-17 is estimated to be 88 percent; however, as discussed earlier, this low rate is due primarily to the low pre-school attendance among children aged 5-6. Among children aged 7-17, the average school attendance rate is 96.2 percent, with a slightly lower rate found among children in employment (94.5%) and a slightly higher rate among children who are not employed (97.4%) (Table 4.5). Detailed analysis indicates this ‘schooling gap’ to be the result of lower school attendance rates among older children, some of whom are beyond compulsory school age. Although attendance rates differ little between working and non-working children of compulsory school age (7-15 years), they differ significantly between working and non-working children beyond compulsory school age (16-17 years), for whom attendance rates are 82.8 percent and 92.6 percent, respectively. While it is possible that the difference in rates is caused by children dropping out of school because they need to work, it is also possible that children sort themselves out based on their abilities. In other words, the negative association between employment and school attendance may be due, in part, to those children who are less likely to perform well in formal education dropping out in order to learn a trade.

Table 4.5 School attendance rates of working and non-working children (%)		
School attendance	Non-working children	Working children
Ages 7-17	97.42	94.52
Ages 7-15	98.25	98.91
Ages 16-17	92.56	82.81

they were under age 10, they were not asked about work status in the Child Questionnaire). All 10 unpaid family workers who reported sexual abuse were interviewed alone.

¹⁹ Employment status is defined based on children’s answers to employment questions.

Closer analysis of those children who are not in school (an estimated 49,000 children) reveals that 80 percent of them had attended school at some time in the past. Of the estimated 10,000 children aged 7-17 who never attended school, more than half (51.3%) are children aged 7, who are likely to be ‘late starters’. If this is indeed the case, then the problem of non-attendance would be limited to an estimated 5,000 children. Only one-fifth of this group is employed, which would indicate that something other than work is preventing these children from attending school. In fact, children’s responses indicate that in 91.8 percent of cases, some sort of disability/illness has prevented them from attending school. Less than 5 percent of children stated that they were unable to attend school because their families could not afford schooling expenses.

Among drop-outs – i.e., the estimated 39,000 children aged 7-17 who attended school in the past, but who are not currently attending – 78 percent left school after completing their compulsory education (nine years). Children who drop out before grade 7 represent around 10 percent of all drop-outs. After grade 7, the likelihood of dropping out of school increases, peaking (at 44.3%) at grade 9, the final year of compulsory schooling (Table 4.6).

Table 4.6 Highest grade completed before leaving school (%)

School grade	All drop-outs	Non-working children	Working children
Grade 1	2.11	6.09	0.97
Grade 2	0.74	3.33	-
Grade 3	0.82	1.08	0.75
Grade 4	2.29	9.90	0.10
Grade 5	1.54	3.77	0.90
Grade 6	2.22	-	2.86
Grade 7	2.92	5.07	2.30
Grade 8	8.86	6.17	9.63
Grade 9	44.25	38.06	46.03
Grade 10	2.91	9.75	0.94
Grade 11	30.83	15.5	35.24
Total (n=000)	39	9	30

Note: Covers children aged 7-17.

In spite of the fact that 77.7 percent of school drop-outs are employed, it is not possible to conclude that children drop out of school as a negative consequence of work. As noted earlier, children might leave school because they consider some form of training other than formal education more suited to their individual skills or talents.

If, indeed, the need to work is the reason why children drop out of school, it would be expected that children drop out at every grade level at more or less equal rates. However, as Table 4.6 shows, a significant proportion of children do not drop out until after completing nine

years of compulsory education, and a higher proportion of non-working children (27%) than working children (17.8%) drop out before completing compulsory education. While this finding may be due to the fact that working children tend to be older than non-working children, an examination of school drop-out among children aged 16-17 shows that more non-working children aged 16-17 (20.6%) left school before completing their compulsory education than working children of the same ages (11.2%). These findings are consistent with children’s responses that they do not attend school because of illness/injury; to the extent that working children are healthier than non-working children, it is reasonable to expect that they are also more likely to complete their compulsory schooling.

A comparison of the ages at which working and non-working children left school is consistent with the discussion above. As Table 4.7 shows, the majority of working children left school after reaching age 14-15, the ages at which children in Kyrgyzstan normally finish their compulsory schooling (Table 4.7).

Table 4.7 Distribution of school drop-outs by school-leaving age (%)

School-leaving age	Non-working children	Working children
8	8.7	1.72
9	0.8	0.1
10	1.42	1.33
11	10.14	0.1
12	2.11	3.46
13	10.3	8.74
14	20.14	35.67
15	30.89	21.69
16	14.56	26.92
17	8.7	1.72
Total (n=000)	9	30

Note: Covers children aged 7-17.

Although it is difficult to clearly judge from these figures the role of employment in the decision to leave school, the fact remains that the overwhelming majority of children leave school at the end of compulsory education, which casts doubt on the argument that the ‘need to work’ is the reason for dropping out. According to children’s survey responses, 5.3 percent of children who left school did so in order to work and 4.0 percent to perform unpaid household services. These figures are similar to estimates for children who were reported to be working during the reference week (5.6 and 3.9 percent, respectively), which supports the conjecture that the need to work is probably not the main reason why children drop out of school.

4.2.2. School-starting age

It is possible that the need to work may delay children's entry into school; however, this conjecture is not borne out by CLS data. As noted earlier, although compulsory school starts at age 7, a good number of 6-year-olds are found in school as well. Indeed, the CLS data reveals that 32.8 percent of all children, including drop-outs, started school at age 6, whereas the majority (65.8%) started at age 7 and a very few (1.4%) at age 8. When working and non-working children are compared, a slightly larger proportion of working children (34.3%) than non-working children (31.3%) were found to start school at age 6.

4.2.3. Days absent from school

In order to determine whether or not employment is preventing children from attending school on a regular basis, children were asked to report the number of days they were absent from school. Contrary to expectations, equal proportions (about 10 percent) of working and non-working children aged 7-17 reported having missed at least one day of school during the reference week, and working children actually missed fewer days (2.1) than non-working children (3.1).

According to children's responses, neither employment nor engagement in unpaid household services was the main reason for missing school. In 31.9 percent of all cases, absence from school was due to either official school closure for vacation or bad weather, or teacher absence. Of the remaining instances, 64.7 percent of absences were due to a child's illness or injury, 27.8 percent to employment or unpaid household services and 7.5 percent to other reasons. Employment or unpaid household services was responsible for the school absence of 34.3 percent of working children, compared to only 18.5 percent of non-working children.²⁰

4.2.4. Vocational Training

Vocational training is uncommon among children. Only 2.5 percent of children aged 10-17 who did not attend school had received or were currently receiving vocational training, and of these, only 28 percent had received or expected to receive a certificate. Furthermore, none of the children who had never attended formal education had attended or were currently attending a training course. This indicates that vocational training is not regarded as an alternative to formal schooling in Kyrgyzstan; in fact, 90.7 percent of all children who had attended or were currently attending a training course were children in employment.

²⁰ Almost all of the absences of non-working children were related to unpaid household services rather than employment; however, five children reported that they missed school because they needed to help in a family business.

CONCLUSION

The rate of economic activity among the children of Kyrgyzstan – 45.8 percent among children aged 5-17 years. At 40.3 percent, the prevalence of child labour among children aged 7-17 is equally high. This high prevalence of child labour raises concern about the well-being of children in Kyrgyzstan and makes it imperative to take immediate action for its elimination.

For the majority of children in employment, work is an activity that is performed seven days a week, year around; in other words, it is a part of the daily life of the children; however, a closer look at children's activities sheds a more positive light on this rather grim picture. Most children are employed for only a few hours per day as unpaid family workers engaged in agricultural activities within and around the household premises. Hence, one of the concerns over children's employment, namely, that long hours of work are physically tiresome for children, is not valid for the majority of children in Kyrgyzstan. The concern that employment has a negative effect on children's schooling is also not borne out by the data. In fact, almost universal school attendance is observed among children of compulsory school age. Although school enrolment among older children beyond compulsory school age who are employed is lower than among those who are not employed, this may be a result of children's own choices of different life tracks that do not involve formal education, but are more suited to their individual skills.

Another concern is that child labour may involve hazardous work. Based on children's own descriptions of their work environments, about one-fifth of these demand improvement; however, the data also reveals that none of the working children suffered from a serious work-related illnesses or injury that precluded them from working or attending school during the year preceding the survey.

These relatively positive findings may appear to be incongruent with the high prevalence of child labour. The reason for this is the high prevalence of work among young children aged 5-13 – who are considered to be child labour, under the national definition, if they are employed for even one hour per week – and the high prevalence of work among older school-going children – who are legally allowed to work only a few hours per week. The sensitivity of the estimated rate of child labour to these factors can be understood by considering how it would be affected if children aged 5-13 were allowed to work for up to 12 hours per week, which is the cut-off point for permissible hours of employment for school-going children aged 14. Such a change would result in a drop in the estimated prevalence of child labour among children aged 5-17 by 10 percentage points from 40.3 percent to 30.5 percent. A further drop of 5 percentage

points, to 25.5 percent, would occur by removing the differentiation between non-school-going and school-going children that restricts the number of hours of employment for the latter.

Given that Kyrgyzstan is highly rural and that a large proportion of households are engaged in production for home consumption, the high prevalence of work among children is not surprising. Adults probably consider work to be part of the normal rhythm of life for themselves as well as their children, rather than as something that may be harmful to children. In fact, given that the livelihood of the majority of children will depend on agricultural production once they reach adulthood, adults might even consider the early involvement of children in agricultural activities to be a beneficial form of training.

Multivariate analysis of the factors affecting children's activities show that age is a strong predictor of school attendance and, to a lesser extent, of employment. The overwhelming majority of compulsory school-age children do not drop out before completing at least nine years of compulsory schooling. Although the probability of employment increases with age, the fact that very young children are also likely to be employed indicates that work is part of every-day life in Kyrgyzstan. The same is true for unpaid household services, which is not surprising, given that the distinction between economic and household activities tends to blur in rural areas. Quite interestingly, region of residence is a strong predictor of employment, even after controlling for a whole host of individual and household-level variables. Among the possible reasons for the regional variation in the prevalence of child employment and child labour are differences in the types of economic activities carried out (particularly those related to regional differences in agricultural produce) and how much opportunity they provide for child employment. Region of residence is less important in determining children's school attendance. The small variation in school attendance by region not only indicates that the educational infrastructure is consistent across regions, it also highlights the fact that a high prevalence of employment is not necessarily associated with a low prevalence of school attendance. In fact, as the descriptive statistics illustrate, work does not preclude children in Kyrgyzstan from attending school.

Several household-level variables also play a role in determining children's likelihood of employment and school attendance. For instance, children from households that own livestock have a higher likelihood of both attending school and engaging in employment. Notwithstanding this finding, it is also the case that the number of children aged 5-17 who are engaged solely in economic activities is negligible, as is the number of compulsory school-age children who do not attend school and the number of girls aged 15-17 who do not perform any household chores. In other words, household-level variables are not strong enough to produce divergent employment or school attendance patterns across households.

While setting high legal standards is a worthy effort, care must be shown that these take into account the prevailing circumstances and practices in the country. Partly as a result of these high standards, an overwhelming majority of working children in Kyrgyzstan are classified as child labourers – a classification that requires their immediate removal from work. Given that these children are mostly employed in family establishments performing agricultural activities for the sustenance of the household, it is difficult to visualise what type of government intervention could succeed in withdrawing them from work. A better strategy might involve increasing the awareness of families towards the possible dangers faced by children at work and urging them to protect their children from these risks. Efforts are also needed to understand the factors underlying the great regional variation in the prevalence of child labour and to implement regional-level policies to address region-specific problems. The high rate of school attendance presents itself as an opportunity to reach out to working children in schools and teach them how to protect themselves from the potential dangers that they face at work. Monitoring working children in schools will also help identify those most at risk, enabling local authorities to take immediate action in the best interests of these children.

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Appendix A: Concepts and definitions

The following concepts and definitions were used in the CLS and appear in this report:

Child: In line with the 1989 UN Convention on the Rights of the Child (CRC) and the 1999 ILO Convention (No. 182) on the Worst Forms of Child Labour (WFCL), a child is defined as an individual under the age of 18. Since it is commonly agreed that a child under age five is too young to engage in work or start school, the CLS considers children aged 5-17 years only.

Household: A household is defined as a person or group of persons who live together in the same house or compound, share the same housekeeping arrangements and are catered for as one unit. Members of a household are not necessarily related (by blood or marriage), and not all those related in the same house or compound necessarily belong to the same household.

Industry: Includes all types of establishments or businesses in which persons are engaged in the production and/or distribution of goods and services. The national classification system of industries (*based on NACE 2*) has been used in the survey.

Occupation: An occupation is defined as a type of economic activity a person usually pursues to earn income in cash or in kind. If more than one occupation is held, the one in which the maximum working hours were spent during the reference period is regarded as the main occupation. If equal time is spent, the one providing the larger share of income is regarded as the main occupation. The national classification system (*based on ISCO 88*) has been used in the survey.

Work: Any activity that falls within the production boundary of the UN System of National Accounts (1993 SNA) is considered work. This boundary covers all market production and certain types of non-market production, including production and processing of primary products for own consumption, own-account construction and other production of fixed assets for own use. Whether the activity takes place in the formal or the informal sector, in urban or rural areas, or whether it is paid or not is of no significance; however, unpaid domestic services rendered within the household by and for household members are excluded from this definition of work.

Child labourers as used by ILO in providing global estimates: Child labourers are a distinct group of children who are engaged in work unsuitable for their capacities as children or are in work that may jeopardise their health, education or moral development. The definition is based on ILO Convention No. 138 on Minimum Age (1973) and ILO Convention 182, on the worst forms of child labour. Although a unique operational definition does not exist, for the purpose of global estimates the ILO uses the following operational definition:

- i) Working children under age 12,
- ii) Children aged 12-14 who work 14 or more hours per week,
- iii) Children aged 15-17 who work 43 hours or more per week and
- iv) Children under age 18 engaged in hazardous work.

Appendix B: Methodology and Data Collection*

The 2007 National Child Labour Survey targeted children aged 5-17 living in households in all regions in Kyrgyzstan. Children living in institutions such as children's homes and boarding schools were excluded from the survey.

The main data-collection tool was a three-part, country-specific questionnaire developed by National Statistical Committee (NSC) specialists using the SIMPOC model questionnaire and translated into both Russian and Kyrgyz. Part 1 was addressed to the most knowledgeable adult household member and included questions on education, employment, unemployment, children's willingness to work and performance of unpaid household services. Part 2 was also addressed to the most knowledgeable adult household member and included questions on household characteristics, including household socio-economic status. Part 3 was addressed direct to children aged 5-17 years and included questions on education, employment and household activities. Field interviews were conducted during late autumn in order to reach as many children as possible.

Methodology

Sample design and sampling frame

The survey was designed to ensure that statistically reliable estimates could be provided for the majority of indicators at the national level and in 9 *oblasts* (Batken, Jalal-Abad, Issyk-Kul, Naryn, Osh, Talas, Chui, Bishkek City and Osh City) for both urban and rural regions. A multistage-stratified cluster design was used, with two-stage sampling and two basic strata (urban and rural areas).

Administrative records were used as a sampling frame for the selection of primary sampling units (PSUs). PSUs were comprised of villages in rural areas, cities in urban areas and micro-rayons in Bishkek city. Secondary sampling units (SSUs) consisted of population blocks constructed by dividing PSUs with populations of 1,500 or more by 1,000 and rounding to the nearest integer (e.g., a PSU with a population of 5,600 would be divided into 6 SSUs, as follows: $5,600/1,000 = 5.6 \approx 6$.) For PSUs with a population of 1,500 or less, the entire PSU was treated as an SSU. Ultimate sampling units consisted of households. The list of households was updated by conducting a listing study during October-November 2007. Households in each of the

* The information provide in this appendix was prepared by the National Statistical Committee of Kyrghzstan.

selected enumeration areas were divided into two groups: a) households having at least one child; and b) other households.

Sample size

Households were allocated with the aim of obtaining a net sample size of approximately 6,300 households. Households were distributed between rural and urban areas based on probability proportional to size of the population (PPS). In rural areas, 360 villages in 7 *oblasts* were selected based on PPS. In urban areas, allocation was made in proportion to the number of cities, with a minimum of two cities in each *oblast*. In total, 6,300 households were selected (630 blocks, 10 households per block). Table B1 shows the distribution of PSUs.

Stratum No.	<i>Oblast</i>	Type of residency	Population	Allocated number of PSUs (village/city/micro-rayon)	Expected number of blocks to be surveyed
(1)	(2)	(3)	(4)	(5)	(6)
1	Bishkek city	Urban	751,851	25	115
2	Batken	Urban	105,200	3	5
3	Jalal-Abad	Urban	233,200	4	33
4	Naryn	Urban	47,400	2	8
5	Osh	Urban	311,330	3 (Osh +2)	7 (+52)
6	Talas	Urban	35,500	2	7
7	Chui	Urban	155,500	3	17
8	Issyk-Kul	Urban	122,200	3	23
	Total		1,010,330	20	152
9	Batken	Rural	312,552	20	29
10	Jalal-Abad	Rural	730,926	46	83
11	Naryn	Rural	220,742	16	21
12	Osh	Rural	971,789	62	106
13	Talas	Rural	186,460	14	20
14	Chui	Rural	588,421	38	72
15	Issyk-Kul	Rural	307,517	20	29
	Total		3,318,407	216	360

Data collection

Enumerator and Supervisor Training

Field personnel consisted of 101 interviewers, 35 supervisors and 9 *oblast* coordinators (Heads of State statistics divisions). Interviewers were hired based on their experience in conducting surveys, especially household surveys, whereas supervisors and coordinators were selected from among the staff of NSC, the national statistical office of Kyrgyzstan. Women accounted for 70 percent of all field personnel. Regional coordinators were responsible for selecting supervisors and interviewers, assigning and scheduling personnel to interviewing teams, inspecting/evaluating team work, preparing financial reports and providing the NSC with all survey documentation, including the completed questionnaires.

All field personnel attended an intensive two-day training seminar jointly organised by the ILO and NSC. The training was conducted by international statistical experts from ILO-IPEC, Mr. M. Hakkı Özel and Mr. Mondal Debi Prosad, and was repeated in five different regions prior to the initiation of fieldwork. Representatives from the NSC's main partners (the Administration of the President of the Kyrgyz Republic, the Ministry of Education, Ministry of Labour and Social Development, Department on Children's Security, Trade Union Federation of the Kyrgyz Republic, Employer Confederation of the Kyrgyz Republic, ILO-IPEC and UNICEF in the Kyrgyz Republic) also attended the training seminar, which included a review of the survey purpose, key concepts and definitions, the survey questionnaire, sample plan and work plan. Training involved both lectures and role-playing that allowed interviewers and supervisors the chance to explore how best to resolve any misunderstandings that might arise during the actual fieldwork. The training focused both on the establishment of rapport between interviewers and respondents and on the importance of correctly coding responses on the questionnaire forms. Concepts and definitions were discussed in detail, and a question-by-question review was conducted to thoroughly familiarise the interviewers with the questionnaire content.

Pilot survey

The questionnaire was field-tested by conducting a pilot survey of 40 households (20 urban, 20 rural). The pilot survey made it possible to gain a better understanding regarding respondents' perceptions of the questions included in the survey and the amount of time required to complete the questionnaires. In light of this understanding, questionnaires were further revised, and the number of field personnel required was determined.

Fieldwork

Data collection took place from 18 November to 26 December 2007 in the country's northern regions and from 1 December to 26 December 2007 in its southern regions. In total, interviews were conducted with 6,300 households containing 26,008 individuals (49% male; 51% female), 7,080 of whom were children aged 5-17 years (52% boys, 48% girls). Kyrgyz citizens as well as non-citizens resident in the household were included in the survey. Household members who were temporarily absent (up to 3 months) were also included; however, visitors to the household and household members who were absent for more than 3 months were excluded.

Field personnel were divided into 35 mobile teams comprised of three interviewers, a supervisor and a driver. In addition, four individuals were employed at the NSC on a part-time basis to perform administrative tasks, including accounting and financial reporting related to the survey.

Each interviewer was provided with a carrying case containing questionnaires, pencils, erasers, notepads and all other supplies necessary to complete the required number of interviews. In general, interviewers were expected to cover two to three households per day over a 25-day period. Interviews were conducted with all household members, beginning with the most knowledgeable adult household member and continuing in descending order according to the age of the respondent. For households with more than eight members age 5 and older, a second questionnaire form was used, and the completed forms were stapled together.

In order to increase the rate of survey participation, each interviewer was also provided with a letter signed by the NSC chairman that explained the purpose of the survey, expressed the importance of participation, and ensured the confidentiality of the data provided by participants. Respondents were not asked to produce any official documents, such as residence permits or other identification. Interviewers offered small gifts to household members participating in the survey, which helped to establish rapport, especially with young children. In cases where households were unavailable or refused to participate in the survey, they were replaced by other households from the same block. In total, 262 households were replaced, 58 percent of which were located in Bishkek city.

Quality-control was performed by both interviewers and supervisors. Interviewers were expected to ensure that questionnaires were completed correctly and in a timely manner, and that any mistakes in filling out the questionnaire forms were corrected before they were turned over to their supervisors.

Data processing

Interviewers submitted the completed questionnaires to their supervisors, who transferred the questionnaires from all interviewers in their area, along with the appropriate reports, to the regional coordinators, who were responsible for submitting the completed questionnaires to the NSC central office. Packets of completed questionnaires were delivered to a centralised location within the NSC, registered, and checked in preparation for data processing. Visual inspection and logical control of questionnaires was conducted over a two-week period beginning on 8 January 2008, and coding was conducted between 14 January and 1 February 2008. Data entry was performed from 1-29 February 2008 using a data-input program developed by NSC programmers for the software program Clipper (MS-DOS). A completed database and output tables were made available to analysts on 1 March 2008. In total, 88 tables were constructed from the questionnaire data (Part 1: 28 tables; Part 2: 30 tables; Part 3: 30 tables). Data cleaning and file preparation was conducted throughout March 2008. ILO international statistical experts Mr. M. Hakkı Özel and Mr. Debi Mondal coordinated the production of data estimates, based on which an analytical report of the survey findings was written by ILO international advisor Ms. Meltem Dayıođlu.

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