THE HASHEMITE KINGDOM OF JORDAN

International Labour Organization

Working Children in the Hashemite Kingdom of Jordan: Results of the 2007 Child Labour Survey

March 2009

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Preface

The Department of Statistics (DoS) takes the pleasure in presenting the analytical report on the results of the Child Labor Survey which was carried out during 1/12/2007 – 15/1/2008. The survey covered a sample of about 15000 households Nation-wide representing the Governorates of the Kingdom, Urban-Rural, and the capital Amman, based on the frame provided by the results of the Population and Housing Census 2004.

This report aimed at focusing on the characteristics of children aged (5-17) years and linking them to the demographic and socio-economic variables, as well as the prevalence of this phenomena in Jordan to eliminate it as much as possible. This report can also provide information on living conditions of the households in general, the households' children in particular and the work environment related to them.

In addition, this report provides a comprehensive accurate database on children labor, to be considered as a sole formal reference in such surveys. This data base could be used for planning, policy making and measures to be taken for eliminating, monitoring and evaluating the effect of the relevant policies and programmers.

The DoS would like to express its thanks and gratitude to the Ministry of Labor and to the ILO whose technical and financial support made the survey a success. The DoS also would like to thank all those from inside or outside of DoS, whose contribution to the survey is highly valued, thanks also are due to the ILO team represented by:

Mr. Mustafa Ozel: for providing assistance in all stages of the survey.

Miss: Hasibe Dedes: for helps contribution to sampling design

Miss Meltem Dayioglu: for preparing the English Analytical Report

The DoS hopes that data and findings of this report would be of great help to those interested in policy formulation and decision making about child labor phenomena at both public and private levels.

Director General

Dr. Haidar Fraihat

Executive Summary

The aim of this report is to identify the prevalence of child employment and child labour in Jordan, the factors influencing child employment and schooling, and the possible consequences of child employment as measured by health and schooling outcomes. The analysis presented here is based on data from the 2007 Child Labour Survey (CLS) conducted by the Jordanian Department of Statistics in collaboration with ILO-IPEC.

The CLS covered 76,046 individuals, including 24,319 children between the ages of 5-17 from 14,091 households. According to CLS estimates based on data for the week preceding the survey, 37,760 (2.1%) of the 1,785,596 children aged 5-17 in Jordan are economically active (Table E1). At 1.9 percent, the employment rate among children aged 5-17 is low; however, in line with the high overall unemployment rate in Jordan, the estimated unemployment rate among children aged 15-17 is high (17.3%). This suggests that had work been available, the employment rate among children, particular those aged 15-17, would have been higher as well.

Table E.1 Distribution of population by age group and economic activity

	Total	**Age 5-17**	**Age 5-11**	**Age 12-14**	**Age 5-14**	**Age 15-17**	**Age 15+**
Total population	5,723,000	1,785,596	992,391	412,941	1,405,332	380,264	3,588,250
Population 0-4 yrs	729,417	-	-	-		-	-
Labour Force (E + U)	1,553,299	37,760	3,324	7,979	11,303	26,457	1,541,996
Employed (E)	1,403,199	33,190	3,324	7,979	11,303	21,887	1,391,896
Unemployed (U)	150,100	4,570	-	-	-	4,570	150,100
LFPR	31.1%	2.11%	0.33%	1.93%	0.80%	6.96%	43%
U rate	9.7%	12.10%	-	-		17.27%	9.7%

Note: Labour force and employment figures under the 'total' column refer to individuals aged 5 and above. Unemployment figures are for individuals age 15 and above. Employment figures for children reflect a positive response to employment questions by either children or their parents.

The data also shows that employment is very low among younger children aged 5-11 (0.3%) and 12-14 (1.9%) and among girls of all ages. Even among girls aged 15-17, the employment rate does not exceed one percent. As a result, boys constitute nearly 90 percent of all children in employment.

Despite the rather low prevalence of employment among children, those who are employed put in substantial hours. The average work week among all children is 38.6 hours per week, and among boys, this figure increases to 40.6 hours per week.

Close to one-third of children aged 5-17 also provide unpaid household services ('chores') to the members of their household. A higher percentage of girls (37.6%) than boys (27.1%) provide such services, the nature and intensity of which vary with the sex of the child. Whereas girls engage in activities within the homestead such as cooking and cleaning, boys tend to perform outdoor activities such as shopping and repairs. Although a sizeable proportion of children are involved in providing unpaid household services, their hours are limited to 6.2 hours per week, with girls putting in, on average, 3.5 hours more per week than boys.

School attendance rates in Jordan are very high, reaching 97.1 percent among children of compulsory school age (6-15 years) and 83.2 percent among children beyond compulsory school age (16-17 years). Pre-school attendance among children age five is also estimated to be rather high, at nearly 70 percent. In sharp distinction to many middle-income countries, attendance rates among boys and girls of compulsory school age in Jordan are similar, and among older children, rates are higher for girls than for boys.

As a result of the high school attendance rates and the low employment rates among children, the proportion of children engaged solely in economic activity is very low; among 6-17-year-olds, it is estimated to be 0.7 percent (Table E.2). Solely performing unpaid household services ('chores') is also rather unlikely; among 6-17-year-olds, it is estimated to be 2.0 percent. In contrast, 31.8 percent of children combine schooling with unpaid household services, while the majority (62.4%) of children attend school only.

Table E.2 Distribution of children aged 6-17 by type(s) of activity and sex

Activity	All children	Boys	Girls
School + Economic activity + Unpaid hh services	0.43	0.69	0.16
School + Economic activity	0.44	0.68	0.19
School + Unpaid household services	31.77	26.56	37.39
Economic activity +Unpaid household services	0.51	0.90	0.09
School only	62.39	66.43	58.04
Economic activity only	0.65	1.22	0.02
Unpaid household services only	2.04	1.24	2.91
Inactive (Idle)	1.76	2.28	1.20

While overall school attendance rates in Jordan are high (95%), the schooling of children in employment lags considerably behind that of children who are not employed (Table E.3), especially among those children beyond the age of compulsory education. For example, among boys aged 16-17, school attendance rates are 88.7 percent for those not in employment, but only 23.2 percent for those in employment. For girls of this age, the figures are 85.8 percent and 30.0 percent, respectively. Children in employment also start school later and drop out earlier than non-working children.

Table E.3 School attendance rate by sex, age and employment status (%)

	Age 6-15		Age 16-17	
	Boys	**Girls**	**Boys**	**Girls**
School attendance – All children	96.7	97.6	81.1	85.4
School attendance – Not Employed	97.5	97.6	88.7	85.8
School attendance - Employed	55.9	91.0	23.2	30.0

The above findings show that employment and school are incompatible activities for children in Jordan. This is not surprising, given that children in employment in Jordan are likely to work long hours as wage earners.

The fact that the majority of employed children (62.7%) in Jordan work as wage earners is a significant characteristic of child employment (Table E.4); however, the pattern of employment status differs widely between girls and boys. While 66.6 percent of boys in employment are wage earners, the corresponding rate among girls is only 28.2 percent. In contrast, 66.8 percent of girls work as unpaid family workers, as opposed to 28.2 percent of boys.

Table E.4 Distribution of employed boys and girls by employment status (%)

	All children	**Boys**	**Girls**
Employee	62.69	66.57	30.9
Employer	0.67	0.75	-
Own account worker	2.61	2.93	-
Unpaid family worker	32.37	28.18	66.8
Apprentice (without pay)	1.65	1.57	2.3
Number of employed	33,190	29,585	3,605

Sector of employment also differs markedly between boys and girls. Overall, 36.3 percent of children in employment are found in the wholesale and retail trade sector, followed by agriculture (27.3%) and manufacturing (15.8%). However, most girls in employment (77%) work in agriculture, as opposed to only 21.5 percent of boys, and most boys in employment (40%) work

in the trade sector, as opposed to only 11.3 percent of girls. A sizeable number (8.9%) of boys are also employed in the construction sector – a sector that is considered hazardous for children.

Table E.5 Distribution of children in employment by sector of economic activity (%)			
	All	**Male**	**Female**
Agriculture & fishing	27.53	21.51	77.00
Mining	0.50	0.56	-
Manufacturing	15.78	17.06	5.34
Electricity, gas, water	0.45	0.50	-
Construction	7.96	8.93	-
Wholesale/retail trade	36.31	39.36	11.30
Hotel/restaurant	3.32	3.72	-
Transport, storage	2.58	2.89	-
Real estate	0.85	0.95	-
Personal/community service	4.28	4.52	2.30
Private household	0.44	-	4.06

In terms of occupation, the majority (77%) of girls in employment are classified as either skilled or elementary agricultural workers (Table E.6), whereas most boys (68.8%) are employed as either service/sales workers, craft and related trades workers, or in non-agricultural elementary occupations. The earnings of children employed as wage workers account for close to one-quarter of their total household earnings, and over half of wage-earning children report giving their earnings to their parents.

Table E.6 Distribution of children in employment by occupation and sex (%)			
	All Children	**Boys**	**Girls**
Service and sales	23.78	25.02	13.60
Skilled agricultural labour	16.69	13.69	41.34
Craft and related trades	33.30	36.71	5.34
Plant and machine operators, assemblers	1.91	2.14	-
Elementary agricultural labourers	10.35	7.26	35.66
Elementary labourers other than agriculture	13.17	14.28	4.06

Using the national definition of child labour, 88.1 percent of children in employment in Jordan – an estimated 29,225 children – are classified as child labourers. For the most part, child labourers do not differ greatly from other working children in terms of sector of economic activity, occupation or status in employment. In fact, only about one-fifth of child labourers would be required to change occupations or industries in order not to be classified as child labourers. Rather, the main factor differentiating the majority (about 80 percent) of child labourers from

other children in employment is their working conditions, including numbers of hours of work per week, which in the case of child labourers are considered excessive for their age.

As multivariate analysis indicates, there are distinct characteristics that set children who are employed and/or not attending school apart from other children. For instance, children from poorer households and children with less educated parents are more likely to be employed and to be child labourers than other children. They are also more likely to drop out of school. Children of migrants are also more likely to be employed and to become child labourers, and girls (but not boys) from migrant households are also more likely to drop out of school. Finally, children from households that own livestock face a higher risk of employment and child labour, but not necessarily a higher risk of dropping out of school.

An examination of the consequences of child employment in terms of children's health outcomes found that 40.8 percent of children in employment suffered from some type of work-related illness or injury, with the most frequently cited problems extreme fatigue (28.8%) and superficial cuts/injuries (15.4%). The work environment of 40.6 percent of children was also found to be in need of improvement. Furthermore, 12.1 percent of children were found to be subjected to unfavourable treatment at work. With regard to the latter, it should be noted that the majority (71.5%) of children who reported being beaten or physically abused at work were unpaid family workers; moreover, considering that the overwhelming majority of children were interviewed in the company of an adult or another child, it is likely that incidences of abuse were under-reported. These findings indicate the need to closely monitor the work environments of children employed as unpaid family workers, which is a more challenging task than monitoring the work environments of wage-earning children.

Introduction

The aim of this report is to identify the prevalence and nature of employment among children aged 5-17 in Jordan, the factors influencing child employment and schooling, and the potential consequences of employment as measured by children's health and schooling outcomes. The analysis presented here is based on the 2007 Child Labour Survey (CLS), a household-based survey covering 76,046 individuals from 14,091 households that was conducted by the Jordanian Department of Statistics, in collaboration with ILO-IPEC, with the main purpose of understanding child labour in Jordan.

Jordan is a lower-middle-income country with a GNI per capita of $6,210 (measured in PPP) (World Bank, 2008). The service sector accounts for 66 percent of value added, industry 32 percent and agriculture 3 percent. About one-fifth of the population lives in rural areas. The annual GDP growth over the 2000-2006 period averaged around 6.3 percent, which was higher than the average annual population growth, measured at 2.4 percent. The relatively better economic performance in the recent past has reduced the proportion of the population living below the national poverty line from 21.3 percent in 1997 to 14.2 percent in 2002 (World Bank, 2008). However, wide income disparities remain, with the bottom 40 percent of households receiving 18 percent and the highest 20 percent receiving 46 percent of total income (UNICEF, 2008).

Against these inequalities, the adult literacy rate stands at 91 percent, youth literacy (15-24 years) at 99 percent (UNICEF, 2008), and primary school attendance rates are near universal for both girls and boys. These are notable achievements, given the rapid population growth rate and an estimated total fertility rate of 3.6 children per woman in 2007 (DoS, 2007). Despite a notably sharp decline in fertility rates from 7.4 children per woman in 1976 (DoS, 1976) children aged 0-14 still account for 37 percent of the population, which undoubtedly puts pressure on the government in terms of provision of health and educational services to children and youth.

Jordan is signatory to a number of international legal documents pertaining to children, including the UN Convention on the Rights of the Child, which it ratified in 1990. In 1996, Jordan adopted

the Law on the Protection of the Rights of the Child, which included a provision that raised the minimum age of employment from 13 to 16 years, and increased compulsory schooling to 10 years to cover children aged 6-15. In 1997, the Jordanian Parliament ratified ILO Convention No. 138 on Minimum Age, and the Ministry of Labour issued a decision identifying the types of employment considered hazardous for children, and in 2000, the Parliament ratified ILO Convention No. 182 on the Worst Forms of Child Labour. The 2007 CLS constitutes another in this series of efforts aimed at improving the well-being of children.

This report is organized as follows: Section 1 describes the survey methodology and data set; Section 2 examines children's activities, presenting a detailed account of children's employment in terms of hours worked, workplace, type of work engaged in and earnings, as well as an analysis of children's school attendance and unpaid domestic services (chores); Section 3 looks at the determinants of child employment and schooling by examining individual and household-level correlates of employment and school attendance; Section 4 provides a detailed account of children's working conditions in terms of the risks and hazards they face and of their school outcomes, as measured by their school attendance, school-starting age and days absent from school; and Section 5 concludes the report with a summary of findings and recommendations for future action.

SECTION 1

Survey methodology and data set

1.1 Sample design

In 2007, with financial and technical support from ILO-IPEC, the Jordanian Department of Statistics conducted the first Child Labour Survey (CLS) in the Hashemite Kingdom of Jordan. The aim of the CLS was to identify the prevalence and nature of child employment and child labour in Jordan as well as the potential consequences of employment as measured by school and health outcomes. The total sample size consisted of 14,091 households and 76,046 individuals and was determined 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 and for the Governorate of Amman. Table 1.1 shows the distribution of primary sampling units (PSUs) and individuals surveyed across regions.

Table 1.1 Distribution of primary sampling units (PSUs)

Regions	No. of PSUs	No. of households	No of individuals	No. of children aged 5-17
Urban	1,484	12,385	65,947	20,972
Rural	208	1,706	10,099	3,347
Amman	720	6,025	30,873	9,444
Amman - Urban	676	5,664	28,767	8,738
Amman - Rural	44	361	2,106	706
Other Governorates	972	8,066	45,173	14,875
Other Govs. – Urban	808	6,721	37,180	12,234
Other Govs. – Rural	164	1,345	7,993	2,641
Total	1,692	14,091	76,046	24,319

1.2 Questionnaires

The CLS field interviews were conducted between 2 December 2007 and 6 January 2008. The questionnaire used 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. 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. Unpaid Household Services ('Chores') (age 5-17)
6. 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 children's 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. Unpaid Household Services ('Chores')

In total, the child questionnaire contained 43 questions; however, 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.

In order to control for differences, whether intentional or unintentional, between responses of adults and children, some questions on children's activities were included in both the adult and child questionnaires. Interviewers requested that children be interviewed alone to allow them to respond freely to the questions asked; however, due to reasons including inadequate space and reluctance on the part of parents/guardians, this was rarely possible. Of the 24,319 children surveyed, only 218 children (less than 1%) were interviewed alone, whereas the rest were interviewed in the company of either an adult or another child.

The analysis of children's employment, school outcomes and involvement in unpaid household services that is presented in this report relies primarily on the responses of adults. An important exception to this is when parents have reported that children are not engaged in employment or unpaid household services, but the children themselves have declared that they are involved in these activities. In such cases, the children's responses are considered to reflect the actual situation and used as the basis for analysis. However, the actual discrepancy between the responses of adults and children is very small. (For a more detailed discussion of this, see Section 1.4.2.)

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

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

Children in employment ('working children'): Children were defined as 'in employment' if they worked for at least one hour during the reference period 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 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 and involvement in illicit activities, as well as any other work that might be harmful to a child's physical, social or psychological development. The latter category, defined in detail by the Jordanian Ministry of Labour in 1997, in line with Article 74 of Labour Law No. 8, includes work that involves the use of dangerous machinery and equipment; the use and manufacture of explosives; working with fire, gas or chemicals; guarding duties; work that requires excessive physical or repetitive effort; work that takes place in dusty,

noisy, extremely hot or cold, or otherwise unhealthy environments; work that takes place underwater; work in mines; work at construction sites; and work in hotels, restaurants, clubs and nightclubs (Official Gazette No. 4181, 1.2.1997). In line with this detailed description, children engaged in hazardous work are defined to include those who:

- carry heavy loads at work (Child Questionnaire, Question C36);
- operate any machinery/heavy equipment at work (Child Questionnaire, Question C37);
- are exposed at work to any of the adverse conditions listed (dust/fumes, fire/gas/flames, loud noise, etc.) (Child Questionnaire, Question C39);
- work in the construction sector; electricity, gas, steam or hot water supply; mining and quarrying; or in hotels and restaurants (Adult Questionnaire, Question A22 and Child Questionnaire, Question C21);
- work as protective services workers (*occupational code 516*); waiters or bartenders (*occupational code 5123*); extraction and construction workers (*occupational code 71*); metal moulders, welders, sheet-metal workers, structural-metal preparers (*occupational code 721*), plant and machine operators and assemblers (*occupational code 8*); mining and construction labourers (*occupational code 931*); transport labourers and freight handlers (*occupational code 933*) (Adult Questionnaire, Question A21 and Child Questionnaire, Question C20);
- work on the streets or as scavengers (Adult Questionnaire, Question A23; Child Questionnaire, Question C25); and
- children aged 16-17 who work 43 hours or more per week.

Children who are mistreated at work, i.e. children who are subjected to physical, psychological or sexual abuse (Child Questionnaire, question number C40), are also considered to be involved in hazardous work.

Child labour: Child labourers are defined as children who are engaged in work unsuitable for their capacities as children or in work that may jeopardize their health, education or moral development. The definition is based on ILO Convention No. 138 on minimum age and ILO Convention No. 182 on worst forms of child labour. Taking into account the minimum age for employment in Jordan (age 16) and the definition of hazardous work, child labourers are thus defined as:

i) All children in employment under age 12;
ii) Children aged 12-15 employed for 14 hours or more per week; and
iii) Children under age 18 engaged in hazardous work.

1.4 Survey sample and sample characteristics

Of the original CLS sample of 14,091 households, 39 percent did not contain any children between the ages of 5 and 17. In total, 8,591 households containing 24,319 children aged 5-17 were interviewed.

1.4.1 Distribution of children by age group and place of residence

The numbers of children surveyed by age group and place of residence are presented in Table 1.2. As noted earlier, the sample size allows for the provision of independent estimates on working children at the urban/rural level and for the Amman Governorate.

Table 1.2 Distribution of the child sample by age group and place of residence (unweighted)

	Age 5-17	Age 5-11	Age 12-14	Age 15-17
Total	24,319	13,114	5,940	5,265
Urban	20,972	11,332	5,118	4,522
Rural	3,347	1,782	822	743
Regions				
Amman Governorate	9,444	5,039	2,328	2,077
Other Governorates	14,875	8,075	3,612	3,188

1.4.2 Distribution of children's activities by age group

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

The answers provided by children, especially with regard to employment and school attendance, were very similar to the answers provided by their parents and may have been affected by the fact that children were usually interviewed in the company of a parent or another child. With regard to child employment, only 18 cases of non-matching responses between children and parents were found (0.07%). Of these, one pertained to a child in the 5-11 year age group, four to children in the 12-14 year age group and 13 to children in the 15-17 year age group. Similarly, with regard to school attendance, only 21 cases of non-matching responses were found (0.09%), and of these, 12 pertained to children in the 5-11 year age group, two to children in the 12-14 year age group and seven to children in the 15-17 year age group.

Table 1.3 Distribution of children's activities by age group and respondent (unweighted results)				
	Age 5-17	**Age 5-11**	**Age 12-14**	**Age 15-17**
Total number of children	24,319	13,114	5,940	5,265
Employment (work)				
Working – reported by parent	494	45	119	330
Working – reported by child	496	44	117	335
Working – reported by child or parent	504	45	120	339
Schooling				
In school – reported by parent	22,465	12,343	5,681	4,441
In school – reported by child	22,464	12,341	5,679	4,444
In school – reported by child or parent	22,475	12,348	5,681	4,446
Unpaid household services (chores)				
Performing chores – reported by parent	7,899	2,308	2,844	2,747
Performing chores – reported by child	7,819	2,279	2,806	2,734
Performing chores – reported by child or parent	8,015	2,342	2,879	2,794

Larger discrepancies between the responses of children and parents were found with regard to unpaid household services ('chores'), with the rate of discrepancy increasing with age. Overall, mismatches were found for 312 children (1.3%), and of these, 97 pertained to children in the 5-11 year age group (0.7%), 108 to children in the 12-14 year age group (1.8%) and 107 to children in the 15-17 year age group (2.0%).

1.4.3 Distribution of children by relationship to household head

The overwhelming majority (96.6%) of children surveyed were children of the household head, and most of the remaining children were grandchildren of the household head, with the parents of most in the latter group also residing in the same household. In only 233 cases (less than 1.0%) were both biological parents absent from the household and only 10 children were not related to the household head in any way (Table 1.4).

Table 1.4 Relationship of surveyed children to head of household by age group				
	Age 5-17	**Age 5-11**	**Age 12-14**	**Age 15-17**
Head of household	5	-	-	5
Spouse	48	-	-	48
Son/Daughter	23,495	12,695	5,778	5,022
Grandchild	524	349	108	67
Brother/sister	113	22	31	60
Niece/nephew	62	35	13	14
Other relative	31	13	6	12
Servant (live-in)	1	-	-	1
Daughter-in-law/son-in-law	31	-	-	31
Other (non-relative)	9	-	4	5
Total	24,319	13,114	5,940	5,265

SECTION 2

Children's activities and the nature of their work

This section of the report presents descriptive statistics on children in employment. Part 1 provides a general description of the labour market in Jordan; Part 2 presents an overview of children's activities – i.e., market employment, unpaid household services ('chores') and school attendance; Part 3 offers a more detailed discussion on the nature of children's employment, including the type of economic activity in which they are engaged, their employment status, their occupations and their working conditions; and Part 4 briefly examines the socio-economic background of children in employment.

2.1. General labour-market characteristics

The total non-institutional population of Jordan is estimated to be on the order of 5,723,000. Children under age 15 total 2,134,749, or 37.3 percent of the population (Table 2.1), and children aged 5-17, the population targeted by the CLS, total 1,785,596, or 31.2 percent of the population. Boys account for slightly over half (52%) of all children aged 5-17.

Table 2.1 Distribution of population by age group and economic activity

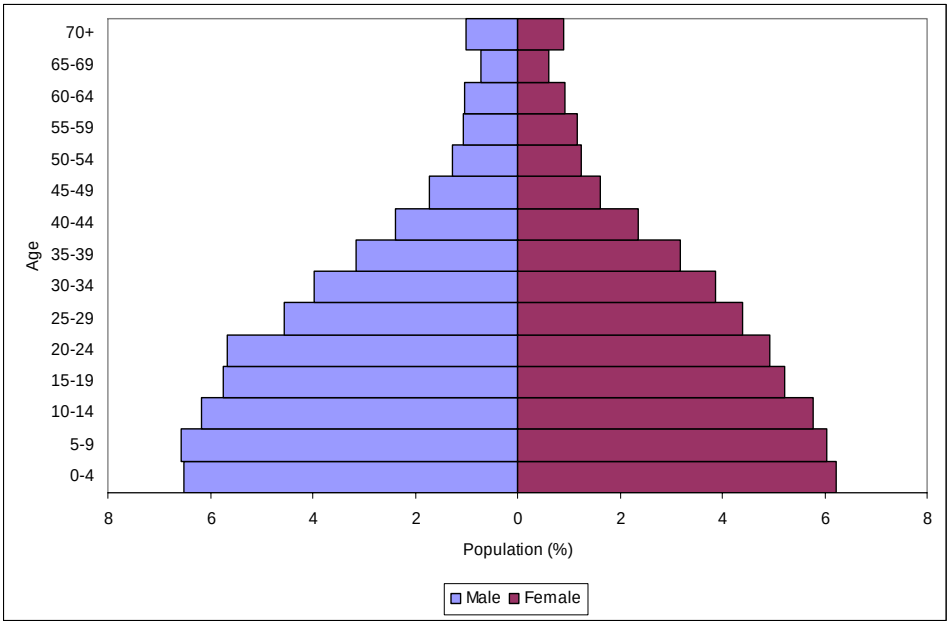
	Total	**Age 15+**	**Age 15-19**	**Age 20-24**	**Age 25-64**	**Age 65 +**
Total Population	5,723,000	3,588,250	627,985	606,480	2,168,703	185,082
Population aged 0-4	729,417					
Population aged 5-14	1,405,332					
LF (E + U)	1,553,299	1,541,996	76,752	278,849	1,166,349	20,046
Employed E	1,403,199	1,391,896	58,292	226,111	1,087,878	19,616
Unemployed U	150,100	150,100	18,460	52,738	78,470	430
LFPR	31.1%	43%	12.2%	46%	53.8%	10.8%
Unemployment Rate	9.7%	9.7%	24.1%	18.9%	6.7%	2.1%

Note: Labour force and employment figures under the 'total' column refer to individuals aged 5 and above. Unemployment figures are for individuals age 15 and above. Employment figures for children reflect a positive response to employment questions by either children or their parents.

As the above figures indicate, the population of Jordan is rather young. Figure 2.1 shows the distribution of the population by age groups more clearly, with the pronounced bulge at the bottom of the pyramid indicative of a high fertility rate. Indeed, in 2007, the crude birth rate (number of births per 1,000 women) was estimated to be 28, and the total fertility rate to be 3.6 children per woman (DoS, 2007). The average annual population growth rate over the 2000-2006

period was estimated at 2.4 percent (World Bank, 2008). The average life expectancy at birth is estimated to be 71 for men and 74 for women (DoS, 2007).

Figure 2.1 Population pyramid, by age and sex



The labour force participation rate for individuals 15 years of age and older is estimated at 43 percent, with the participation rate increasing with age from 12.2 percent among the 15-19 year age group to 46 percent among the 20-24 year age group and 53.8 percent among the 25-64 year age group. These rates are relatively low when compared to OECD and EU averages. In contrast, the unemployment rate among individuals age 15 and over is rather high, at 9.7 percent, and is even higher among the 15-19 and 20-24 year age groups, at 24.0 percent and 18.9 percent, respectively.

Table 2.2 Labor force participation and unemployment rates by age group and sex (%)

	Age 15 +		Age 15-19		Age 20-24		Age 25-64		Age 65 +	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
LFPR	62.1	14.1	16.3	1.6	56.5	15.2	81.3	18.3	19.0	1.1
Unemployment Rate	7.9	17.5	23.5	29.4	14.6	33.3	5.3	12.7	1.8	9.3

Labour participation rates vary sharply between men and women. For individuals 15 years of age and older, the rate is 62.1 percent among men and only 14.1 percent among women. For individuals aged 25-64 years, the rate increases to 81.3 percent among men, compared to only

18.3 percent among women. Not only are labour participation rates very low among women, unemployment rates are much higher among women than among men. While the unemployment rate among men aged 15 and over is 7.9 percent, the rate is more than twice that among women, at an estimated 17.5 percent. Unemployment rates are also higher among younger individuals, reaching 23.5 percent among males aged 15-19, 29.4 percent among females aged 15-19 and 33.3 percent among females aged 20-24.

The distribution of the employed population by sector of economic activity is given in Table 2.3. The employment patterns of 25-64-year-old individuals indicate the

Table 2.3 Distribution of working population by age and sector of economic activity (%)

	Age 15+	**Age 15-19**	**Age 20-24**	**Age 25-64**	**Age 65+**
Agriculture & fishing	5.1	13.0	3.3	4.7	19.8
Mining	0.7	0.3	0.3	0.8	0.0
Manufacturing	10.8	19.0	11.9	10.3	5.7
Electricity, gas, water	1.4	0.7	0.6	1.6	0.5
Construction	7.6	9.4	8.1	7.4	3.4
Wholesale/retail trade	16.3	26.3	13.8	15.9	36.9
Hotel/restaurant	2.7	4.3	3.5	2.5	2.7
Transport, storage	8.6	3.0	5.4	9.6	7.5
Financial intermediary	1.7	0.0	1.7	1.7	2.3
Real estate	3.8	1.3	3.9	3.9	6.3
Public administration	17.3	13.5	26.0	15.9	1.7
Education	11.0	1.1	7.4	12.4	3.4
Health	4.4	0.5	4.3	4.6	3.4
Other personal and community services	5.2	4.5	3.8	5.6	5.1
Private households	3.1	3.2	5.5	2.6	0.8
Extra-territorial org.	0.4	0.0	0.4	0.5	0.5
No. of individuals	1,391,896	58,292	226,111	1,087,878	19,616

main sectors of employment to be wholesale and retail trade (15.9%), public administration (15.9%), education (12.4%), manufacturing (10.3%) and transportation and storage (9.6%). The limited scale of the agricultural and manufacturing sectors, in which the demand for child labour tends to be high, suggests that the prevalence of employment among children in Jordan is likely to be low. In fact, the sectors found to employ large numbers of individuals aged 15-19 in Jordan included wholesale and retail trade (26.3%), manufacturing (19%) and agriculture.

Given the vastly different participation rates of men and women, their distribution across sectors can be expected to differ as well. Indeed, Tables 2.4 and 2.5 demonstrate that employment patterns of men and women are shaped along gender lines. The majority of women are employed in a limited number of sectors that include education (36.5%), health (11.2%), private households

(11.5%) and agriculture (7%). The number of sectors that employ young women aged 15-19 is even more restricted, with private households accounting for 34.2 percent, agriculture for 31.6 percent and manufacturing for 19.3 percent of employed women in this age group. Whereas wholesale/retail trade employ a significant proportion (28.4%) of young men aged 15-19, women this age are practically absent from this sector, as well as from the public administration and construction sectors, which employ, respectively, 14.5 percent and 10.2 percent of young men.

Table 2.4 Distribution of male working population by age and sector of economic activity (%)

	Age 15+	**Age 15-19**	**Age 20-24**	**Age 25-64**	**Age 65+**
Agriculture & fishing	4.6	11.3	3.1	4.2	17.7
Mining	0.8	0.4	0.4	1.0	0.0
Manufacturing	11.7	19.0	12.9	11.1	6.0
Electricity, gas, water	1.5	0.7	0.7	1.8	0.5
Construction	9.0	10.2	9.7	8.9	3.6
Wholesale/retail trade	18.4	28.4	15.4	18.1	37.5
Hotel/restaurant	3.2	4.6	4.3	2.9	2.8
Transport, storage	10.0	2.9	6.0	11.3	7.9
Financial intermediary	1.5	0.0	1.3	1.7	2.4
Real estate	3.9	1.5	3.6	4.0	6.6
Public administration	19.6	14.5	30.9	17.9	1.8
Education	6.3	1.0	4.6	7.1	3.0
Health	2.9	0.5	2.4	3.2	3.6
Other personal/community services	5.5	4.6	4.2	5.9	5.4
Private households	0.6	0.4	0.4	0.6	0.5
Extra-territorial org.	0.4	0.0	0.2	0.4	0.5
No. of individuals	1,146,781	53,494	183,129	891,500	18,657

Table 2.5 Distribution of female working population by age and sector of economic activity (%)

	Age 15+	**Age 15-19**	**Age 20-24**	**Age 25-64**	**Age 65+**
Agriculture & fishing	7.2	31.6	4.0	7.0	59.2
Mining	0.0	0.0	0.0	0.0	0.0
Manufacturing	6.9	19.3	7.4	6.5	0.0
Electricity, gas, water	0.5	0.0	0.4	0.6	0.0
Construction	1.0	0.0	1.5	0.9	0.0
Wholesale/retail trade	6.4	3.2	6.8	6.3	25.6
Hotel/restaurant	0.5	0.0	0.4	0.6	0.0
Transport, storage	2.1	3.4	2.9	1.9	0.0
Financial intermediary	2.2	0.0	3.8	2.0	0.0
Real estate	3.4	0.0	5.1	3.2	0.0
Public administration	6.6	2.4	5.3	7.0	0.0
Education	32.7	2.3	19.2	36.5	10.3
Health	11.1	0.7	12.5	11.2	0.0
Other personal and community services	3.9	2.8	2.5	4.2	0.0
Private households	14.6	34.2	27.2	11.5	4.9
Extra-territorial org.	0.8	0.0	0.9	0.8	0.0
No. of individuals	245,115	4,797	42,981	196,378	959

The distribution among occupations also varies between men and women. Substantially larger proportions of women are professionals (36.2% as opposed to 14.9% of men) or technicians/associate professionals (19.7% as opposed to 9.1% of men), whereas craft and related trades and plant and machine operators are either predominantly or exclusively male (Table 2.6). About equal proportions of men and women are in elementary occupations.

Table 2.6 Distribution of working population by occupation (%)

	All	Men	Women
Legislators and senior officials	0.24	0.23	0.29
Professionals	18.63	14.87	36.20
Technicians and associate professionals	10.94	9.06	19.73
Clerks	5.82	5.54	7.15
Service and sales workers	13.17	14.50	6.96
Skilled agricultural and fishery workers	3.15	2.96	4.03
Craft and related trades workers	16.73	19.38	4.31
Plant and machine operators, assemblers	10.95	13.30	0.00
Elementary occupations	20.28	20.06	21.30
Number of employed	1,391,896	1,146,781	245,115

Note: Covers individuals age 15 years and above.

Table 2.7 Distribution of working population by employment status (%)

	All	Men	Women
Employee	80.94	79.11	89.48
Employer	6.86	7.88	2.09
Own account worker	10.3	11.55	4.5
Unpaid family worker	1.62	1.25	3.34
Apprentice (without pay)	0.28	0.21	0.59
Number of employed	1,391,896	1,146,781	245,115

Note: Covers individuals age 15 years and above.

Wage employment dominates the labour market in Jordan, with almost 80 percent of employed men and 90 percent of employed women working as employees (Table 2.7). While own-account work and working as an employer is more common among men, unpaid family work is more common among women. Status in employment also varies with age. With the exception of the elderly, the dominant form of employment is that of wage work, which peaks among those aged 20-24, and then begins to decline among those 25-64 (Table 2.8). In contrast, unpaid family work decreases with age, whereas own-account work increases linearly with age. Among young people aged 15-19, the predominant status is that of wage earner (82%), while an additional 13 percent are unpaid family workers and only 3.2 percent are own-account workers.

Table 2.8 Distribution of working population by age group and status in employment (%)					
	Age 15+	**Age 15-19**	**Age 20-24**	**Age 25-64**	**Age 65+**
Employee	80.94	81.99	92.67	79.45	25.18
Employer	6.86	0.66	1.27	7.86	34.42
Own account worker	10.3	3.16	3.25	11.64	38.81
Unpaid family worker	1.62	13.0	2.26	0.89	0.85
Apprentice (without pay)	0.28	1.19	0.54	0.17	0.74
Number of employed	1,391,896	58,292	226,111	1,087,878	19,616

2.2. Children's activities

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

2.2.1 Employment

An estimated 33,190 children in Jordan aged 5-17 are in employment (Table 2.9). This figure represents 1.86 percent of all children in this age group. The prevalence of child employment is estimated to be very low among children under 12 years of age – 0.3 percent among those aged 5-11 – whereas it increases to 1.9 percent among children aged 12-14 and to 5.8 percent – or 21,887 children – among children aged 15-17.

Table 2.9 Distribution of child population by age group and employment status				
	Age 5-17	**Age 5-11**	**Age 12-14**	**Age 15-17**
Child population	1,785,596	992,391	412,941	380,264
In employment (n)	33,190	3,324	7,979	21,887
In employment (%)	1.86	0.33	1.93	5.76

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

In line with the high unemployment rates in Jordan, the unemployment rate among children aged 15-17 is also high, at an estimated 17.3 percent, or 4,570 children. This indicates that the employment rate among children, particularly those aged 15-17, would have been higher than the estimated rates had there been more jobs available.

Table 2.10 Distribution of boys and girls by age group and employment status								
	Age 5-17		**Age 5-11**		**Age 12-14**		**Age 15-17**	
	Boys	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**
Child population	929,116	856,479	514,872	477,519	214,105	198,836	200,139	180,125
In employment (n)	29,585	3,605	2,307	1,017*	6,842	1,137*	20,435	1,452*
In employment (%)	3.18	0.42	0.45	0.21*	3.20	0.57*	10.2	0.81*

Note: Figures are based on a positive response to employment questions by either children or parents. * Accuracy of estimates may have been affected by the small sample size.

Employment among girls is rare in Jordan. The employment rate is estimated to be less than 0.5 percent among girls aged 5-17 and even lower among girls under 12 years of age (Table 2.10). Even among girls aged 15-17, the rate of employment remains under 1.0 percent. Employment rates among boys, although also low, are higher than among girls and increase significantly with age. The overall employment rate among boys aged 5-17 is 3.2 percent (29,585 children); however, these rates are only 0.5 percent among boys aged 12-14, increase to 3.2 percent among boys aged 12-14 and reach 10.2 percent among boys aged 15-17. Given the drastically different employment rates between adult men and women, it is not surprising to find a substantially lower rate of employment among girls when compared to boys.

Despite the low prevalence of employment among children, those who are employed put in substantial hours at work. The mean hours of work among children aged 5-17 is estimated to be 38.6 (sd. 22) hours per week (Table 2.11). These figures vary dramatically by sex, with boys working close to twice as many hours per week as girls [40.6 (sd. 21.8) hours and 22.2 (sd. 15.9) hours, respectively.]

Table 2.11 Mean hours worked per day

	Mean hours of work		
Days	**All children**	**Boys**	**Girls**
Monday	6.05 (3.89)	6.44 (3.82)	2.93 (2.91)
Tuesday	6.06 (3.87)	6.43 (3.82)	3.07 (2.80)
Wednesday	5.86 (3.97)	6.21 (3.94)	2.98 (2.83)
Thursday	5.73 (3.98)	6.08 (3.95)	2.89 (2.98)
Friday	5.61 (4.04)	5.89 (4.07)	3.27 (2.85)
Saturday	3.23 (3.91)	3.23 (4.02)	3.16 (2.85)
Sunday	6.05 (3.86)	6.31 (3.89)	3.86 (2.72)
Weekly average	38.59 (21.96)	40.60 (21.76)	22.17 (15.92)

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

Table 2.12 Distribution of children in employment by hours worked and sex (%)

	Distribution of children in employment		
Hrs of work per week	**All Children**	**Boys**	**Girls**
14 hours or less	21.98	17.80	56.01
15-43 hours	32.19	32.50	29.68
44 hours or more	45.84	49.70	14.31

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

The distribution of hours worked over the week is given in Table 2.11. With the exception of Saturdays (which is a holiday in Jordan), boys work for more than six hours per day, compared to three hours per day for girls. Moreover, whereas only around one-fifth of boys work for less than

15 hours per week, more than half (56%) of girls work for less than 15 hours per week (Table 2.12). Furthermore, almost half of boys in employment work for at least 44 hours or more, which represents significant time spent in employment, even for older children aged 15-17. These findings suggest that not only are boys more likely to work than girls, they are also more likely to work full-time, whereas girls are more likely to work part-time.

In order to examine the degree to which the estimated employment rates are sensitive to the chosen reference period, the usual work status of children was estimated by taking the previous 12 months as the reference period. As Table 2.13 shows, the estimate of children's usual work status was found to be somewhat higher than that of children's current work status, at 2.8 percent and 1.8 percent, respectively. Nonetheless, these figures confirm the low prevalence of employment among children in Jordan.

Table 2.13 Children's employment status as reported by parents/guardians (%)

	All children	Boys	Girls
Children employed during the reference year (Usually economically active children)	2.75	4.63	0.72
Children employed during the reference week (Currently economically active children)	1.83	3.13	0.41

Note: Because this table relies only on the responses of parents/guardians, employment rates reported here using the previous week as the reference period are slightly different from those reported earlier in the report.

Given the substantial variations in employment rates by age and sex, it is important to check the sensitivity of employment rates to the reference period with regard to these characteristics. Data shows that the estimated usual employment rates for girls are only slightly higher than the current employment estimates, remaining below 0.5 percent for young children aged 5-11 and only slightly exceeding one percent for children aged 15-17 (Table 2.14). Usual employment rates for boys are also estimated to be somewhat higher than the current rates, but remain below 1.0 percent for boys aged 5-11 and below 5.0 percent for those aged 12-14. The highest usual employment rate is estimated for boys aged 15-17, which, at 13.9 percent, is 3.7 percentage points higher than the rate estimated on the basis of the previous week.

Table 2.14 Usual employment status by age and sex

	Age 5-11			Age 12-14			Age 15-17		
	All	Boys	Girls	All	Boys	Girls	All	Boys	Girls
Child population	992,391	514,872	477,519	412,941	214,105	198,836	380,264	200,139	180,125
In employment (N)	7,054	4,970	2,084*	12,396	10,309	2,087*	29,709	27,753	1,956*
In employment (%)	0.71	0.97	0.44*	3.0	4.81	1.05*	7.81	13.87	1.09*

* Accuracy of estimates may have been affected by the small sample size.
Note: Figures are based on responses of parents/guardians. The reference period is the year preceding the survey.

With regard to the distribution of work around the year, nearly one-third of children in employment were found to work year-round; however, the proportion employed for four months or less (55%) is also quite high (Table 2.15). Whereas the proportion of boys working year-round is higher than that of girls, the proportion of girls employed for four months or less is higher than that of boys. There also appears to be a greater concentration of child employment during the summer months and in November and December (Table 2.16).

Table 2.15 Distribution of usually active children by no. of months in employment

Number of months	% of all children in employment	% of boys in employment	% of girls in employment
1	17.73	17.51	19.21
2	15.52	14.77	20.78
3	12.89	13.86	6.1
4	9.03	8.72	11.19
5	2.41	2.22	3.79
6	1.4	1.31	2.04
7	2.09	2.28	0.78
8	2.61	2.63	2.43
9	0.95	0.72	2.57
10	1.56	1.61	1.26
11	1.3	1.48	-
12	32.51	32.89	29.84

Note: Figures are based on the responses of parents/guardians. The reference period is the year preceding the survey.

Table 2.16 Proportion of usually active children in a given month (%)

Month	% of all children in employment	% of boys in employment	% of girls in employment
January	45.40	46.14	40.18
February	36.68	39.30	34.28
March	39.09	39.59	35.54
April	40.10	40.65	36.32
May	43.06	43.03	43.27
June	53.36	54.43	45.85
July	60.47	61.68	51.96
August	56.12	57.64	45.40
September	49.91	49.43	53.31
October	52.42	52.07	54.86
November	64.90	63.59	74.12
December	63.68	64.38	58.73

Note: Figures are based on the responses of parents/guardians. The reference period is the year preceding the survey.

2.2.2 School

Compulsory education in Jordan is 10 years and covers children aged 6-15. In a restructuring of the education system that took place in 1987, middle schools were abolished, basic education was extended to 10 years and secondary education was reduced from three to two years.

Among children of compulsory school age, school attendance is estimated at 97.1 percent. Attendance rates of children beyond the age of compulsory schooling, i.e., children aged 16-17, are also estimated to be rather high (83.2%), as is pre-school attendance among children aged five (70%).

With the exception of pre-school, attendance rates are higher among girls than boys. Pre-school attendance rates for children age 5 are 72.7 percent for boys and 69.9 percent for girls. Among children of compulsory school age (6-15), there is a small but statistically significant difference ($p<0.00$) in the rates between boys (96.7%) and girls (97.6%). This gender gap widens among children beyond compulsory school age, with the attendance rate of girls aged 16-17 estimated to be 85.4 percent, compared to 81.1 percent among boys of the same age. The finding of lower school attendance among boys in comparison to girls is consistent with boys' higher employment rates and their longer working hours.

Indeed, significant differences are found between the school attendance rates of children who are employed and those who are not in employment. Among children of compulsory school age, the school attendance rate is 97.6 percent for children not in employment, but drops to 61.3 percent among children in employment. Likewise, the school attendance rate among children aged 16-17 who are not in employment is 87.3 percent, but drops substantially to 23.6 percent among children in employment.

Table 2.17 School attendance rate by sex, age and employment status (%)

	Age 6-15		Age 16-17	
	Boys	**Girls**	**Boys**	**Girls**
School attendance – All children	96.7	97.6	81.1	85.4
School attendance – Not Employed	97.5	97.6	88.7	85.8
School attendance – Employed	55.9	91.0	23.2	30.0

The differences in school attendance by status in employment vary most dramatically among boys (see Table 2.17). Among those aged 6-15 who are not in employment, the school attendance rate is 97.5 percent, dropping to 55.9 percent among those in employment. For boys aged 16-17 who

are not in employment, the school attendance rate is 88.7 percent, dropping to 23.2 percent among those in employment. In contrast to these substantial differences of 41.6 percent and 65.5 percent, the difference in school attendance by employment status among girls aged 6-15 is only 6.6 percent; however, the difference in school attendance by employment status among girls aged 16-17 is also very large, at 55.8 percent.

The analysis of school attendance rates by employment status shows that the schooling gap in favour of girls is a result of lower school-attendance rates among employed boys. In fact, a comparison of the school attendance rates of children who do not work shows that attendance rates among boys and girls of compulsory school age are similar, whereas attendance rates among children beyond compulsory school age are higher for boys than for girls.

2.2.3 Unpaid household services ('chores')

Almost one-third of children provide unpaid household services i.e., 'perform household chores' for their households (Table 2.18). The proportion of children who perform these services increases with age, so that while 17.7 percent of children aged 5-11 perform unpaid household services, 47.9 percent of children aged 12-14 and 52.6 percent of children aged 15-17 perform unpaid household services.

Table 2.18 Children providing unpaid household services ('chores') by age group

	Age 5-17	Age 5-11	Age 12-14	Age 15-17
Child population	1,785,596	992,391	412,941	380,264
Unpaid household services (N)	573,243	175,539	197,763	199,941
Unpaid household services (%)	32.1	17.7	47.9	52.6

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

Girls perform unpaid household services at higher rates than boys, and this discrepancy increases with age. Among all children aged 5-17, 37.6 percent of girls and 27.1 percent of boys perform unpaid household services (Table 2.19). Among younger children aged 5-11, these rates are 16.2 percent for boys and 19.3 percent for girls, and among older children aged 15-17, they are 42.6 percent for boys and 63.7 percent for girls. These figures indicate that the traditional division of labour intensifies as children enter adolescence.

Table 2.19 Children providing unpaid household services by age group and sex								
	Age 5-17		Age 5-11		Age 12-14		Age 15-17	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Child population	929,116	856,479	514,872	477,519	214,105	198,836	200,139	180,125
Chores (N)	251,418	321,825	83,627	91,911	82,614	115,149	85,177	114,764
Chores (%)	27.1	37.6	16.2	19.3	38.6	57.9	42.6	63.7

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

The types of unpaid household services performed by girls and boys also differ, with the traditional division of labour quite apparent. (Table 2.20). Whereas boys are more involved with shopping and repair activities, girls spend more time cleaning house, washing clothes and caring for children and elderly/sick members of the household.

Table 2.20 Types of unpaid household services performed by children (%)		
Activity	**Boys**	**Girls**
Shopping for household	89.59	8.08
Repairing household equipment	5.58	0.19
Cooking	1.21	19.41
Cleaning utensils/house	18.98	94.19
Washing clothes	2.48	39.21
Caring for children/old/sick	5.67	22.84
Other household tasks	1.03	1.02
Total number of children doing unpaid household services	251,418	321,825

On average, children who perform unpaid household services do so for 6.2 hours per week, and girls spend 3.5 more hours per week on unpaid household services than boys. However, the overwhelming majority of both girls (90.7%) and boys (99.2%) spend less than 15 hours per week performing unpaid household services (Table 2.21). Only a very small proportion of girls spend excessively long hours (44 hours or more) performing unpaid household services.

Table 2.21 Distribution of children by hours of unpaid household services ('chores') performed per week (%)			
Hours per week	**All children**	**Boys**	**Girls**
14 hours or less	94.11	99.22	90.66
15-43 hours	5.74	0.76	9.10
44 hours or more	1.5	0.02	0.24
Note: Figures refer to total hours of chores performed during the reference week.			

Time spent on unpaid household services is distributed fairly evenly throughout the week. Children spend approximately 1.4 hours per day on weekdays and 1.6 hours per day on weekends (i.e., Friday and Saturday) performing unpaid household services (Table 2.22). The distribution is

similar for boys and girls, with the latter spending about a half-hour more per day. The findings that two-thirds of children do not perform unpaid households services and that those who do spend less than two hours per day on these activities indicate that the household sector in Jordan is fairly small.

Table 2.22 Mean hours of unpaid household services (chores) per day			
	Mean hours		
Days	**Total**	**Boys**	**Girls**
Sunday	1.38 (0.85)	1.14 (0.47)	1.53 (0.98)
Monday	1.43 (0.89)	1.16 (0.49)	1.55 (0.99)
Tuesday	1.41 (0.88)	1.15 (0.49)	1.54 (0.99)
Wednesday	1.42 (0.88)	1.15 (0.48)	1.54 (0.98)
Thursday	1.43 (0.88)	1.17 (0.53)	1.55 (0.98)
Friday	1.59 (1.02)	1.25 (0.62)	1.76 (0.13)
Saturday	1.57 (1.01)	1.22 (0.62)	1.73 (1.11)
Weekly average	6.21 (5.91)	4.15 (3.56)	7.61 (6.72)
Notes: Figures refer to hours worked in the reference week. Standard deviation is given in parenthesis.			

2.2.4 Children in multiple activities

The majority of children (62.4%) aged 6-17 are engaged in the single activity of school attendance (Table 2.23), and another one-third of children combine school with unpaid household services, with the result that almost 95 percent of children either solely attend school or combine schooling with a few hours of unpaid household services per week. The proportion of children aged 6-17 engaged solely in economic activity is less than 0.7 percent, and the proportion of children engaged solely in unpaid household services is also rather low, at around 2 percent of all children. Less than 0.5 percent of children combine schooling with economic activity, and less than 0.5 percent combine all three activities (school attendance, economic activity, unpaid household services).

Table 2.23 Proportion of children (aged 6-17) engaged in multiple activities by sex			
	All Children	**Boys**	**Girls**
School + Economic activity + Unpaid hh services	0.43	0.69	0.16
School + Economic activity	0.44	0.68	0.19
School + Unpaid household services	31.77	26.56	37.39
Economic activity + Unpaid household services	0.51	0.90	0.09
School only	62.39	66.43	58.04
Economic activity only	0.65	1.22	0.02
Unpaid household services only	2.04	1.24	2.91
Inactive (Idle)	1.76	2.28	1.20

Time-use patterns differ somewhat between boys and girls, with boys more likely to attend school only (66.4%, as compared to 58% of girls) and girls more likely to combine school with unpaid household services (37.4%, as compared to 26.6% of boys) (Table 2.23). It is very uncommon for either boys or girls to be engaged solely in economic or household activities without attending school.

2.2.5 Inactive children

The proportion of inactive children – those who do not attend school, are not employed in economic activity and do not perform unpaid household services – is less than two percent of all children aged 6-17. Almost 50 percent of all children reported to be inactive are children aged 10 or older, the majority (close to 90%) of whom were reported not to attend school due to disability or illness. In addition, almost one-fifth of inactive children are children aged six who are likely to be 'late starters'.

2.3 Nature of children's employment in the labour market

2.3.1 Status in Employment

Nearly two-thirds (62.7%) of employed children are wage earners, and nearly one-third (32.4%) are unpaid family workers (Table 2.24). Children who work on their own account (including employers) and children who work as apprentices without pay constitute, respectively, only 3.3 percent and 1.7 percent of all employed children.

Table 2.24 Distribution of employed boys and girls by status in employment (%)

Employment Status	All children	Boys	Girls
Employee (wage worker)	62.69	66.57	30.9
Employer	0.67	0.75	-
Own-account worker (excluding employers)	2.61	2.93	-
Unpaid family worker	32.37	28.18	66.8
Apprentices (without pay)	1.65	1.57	2.3
Number of employed	33,190	29,585	3,605

Whereas boys are most likely to be employed as wage earners (66.6%), girls are most likely to be unpaid family workers (66.8%). In contrast, only 28.2 percent of boys are unpaid family workers, and only 30.9 percent of girls are wage earners. Although few children are employed as apprentices, the rate is higher among girls (2.3%) than among boys (1.6%). In addition, 3.7 percent of boys work on their own account.

Among children employed as wage earners, very few (5.2%) have a written work contract.

2.3.2 Workplaces

In line with the fact that the majority of children work for pay, the overwhelming majority work outside their household dwelling (Table 2.25). Children tend to be employed at shops/kiosks/cafés/restaurants/hotels (28.4%), in factories/workshops (23.4%) and on plantations/farms/orchards (19.1%), and a significant proportion (13.9%) have no fixed workplace.

Table 2.25 Distribution of children in employment by place of work (%)

Place of work	All children	Boys	Girls
At household dwelling	4.01	3.58	7.59
Client's premises	3.83	4.3	-
Formal office	2.45	2.75	-
Factory/workshop	23.42	25.62	5.35
Plantation/farm/orchard	19.07	14.66	55.3
Construction site	3.83	4.29	-
Shop/kiosk/café/restaurant/hotel	28.35	30.31	12.26
No fixed workplace (mobile)	13.93	13.25	19.5
Fixed street/market stall	1.11	1.24	-

There are significant differences between the workplaces of boys and girls (Table 2.25). While 55 percent of girls work on a plantation/farm or in an orchard, the corresponding rate among boys is 14.7 percent. In line with the higher rate of unpaid family workers among girls when compared to boys, the proportion of girls working in and around the homestead is also higher than that of boys. However, in comparison to boys (25.6%), a significantly lower proportion of girls (5.4%) work in a factory/workshop, suggesting that factory work is regarded as more of a male than a female activity. Interestingly, the proportion of girls (19.5%) who have no fixed workplace is larger than that of boys (13.3%). It is also important to note that 4.3 percent of boys work at construction sites, which is regarded as hazardous work for children.

2.3.3 Type of economic activity and occupation

Children in employment are found predominantly in the sectors of agriculture (27.5%), manufacturing (15.8%) and wholesale and retail trade (36.3%) (Table 2.26). The construction sector also accounts for a sizeable proportion of children (8%), almost exclusively boys. In contrast, the great majority of girls (77%) are employed in agriculture, a sector that employs a

smaller proportion of boys (21.5%). The most common sector of employment among boys is sales, accounting for 39.3 percent of all boys in employment.

Table 2.26 Distribution of children in employment by sector of economic activity (%)			
	All children	**Boys**	**Girls**
Agriculture & fishing	27.53	21.51	77.00
Mining	0.50	0.56	-
Manufacturing	15.78	17.06	5.34
Electricity, gas, water	0.45	0.50	-
Construction	7.96	8.93	-
Wholesale/retail trade	36.31	39.36	11.30
Hotel/restaurant	3.32	3.72	-
Transport, storage	2.58	2.89	-
Real estate	0.85	0.95	-
Personal and community services	4.28	4.52	2.30
Private households	0.44	-	4.06

In terms of occupation, one-third of children in employment are craft workers, approximately one-quarter are agricultural workers (skilled or elementary) and approximately one-quarter are service/sales workers. The remaining children in employment are found in elementary occupations other than agriculture (Table 2.27).

Occupations differ greatly between boys and girls. Almost 80 percent of girls in employment are either skilled agricultural workers or in elementary occupations performing agricultural work, and the remainder are either service/sales workers (13.6%) or in elementary occupations other than agriculture (4.1%). In contrast, the majority (36.7%) of boys in employment are craft workers, one-quarter are service/sales workers and one-fifth are agricultural workers. A small proportion of boys (2.1%) also work as plant/machine operators and assemblers.

Table 2.27 Distribution of children in employment by occupation (%)			
Occupation	**All children**	**Boys**	**Girls**
Service/sales worker	23.78	25.02	13.60
Skilled agricultural worker	16.69	13.69	41.34
Craft/related trades worker	33.30	36.71	5.34
Plant/machine operator, assembler	1.91	2.14	-
Elementary agricultural work	10.35	7.26	35.66
Elementary occupations other than agriculture	13.17	14.28	4.06

2.3.4 Earnings

On average, children earn an estimated 85.75 (sd. 50.48) Jordanian Dollars per month. Given that the average monthly income of households with at least one wage earner and one child aged 5-17 is approximately 373.5 (sd. 405.8) JD, this suggests that children's earnings account for approximately one-quarter of the total household income (inclusive of children's contributions).

Most children (52.7%) reported giving their earnings to their parents/guardians. Significant proportions also reported buying things for themselves (23.8%) or their household (12.5%). Only 5.1 percent said they used their earnings to pay school fees or to buy things for school.

2.3.5 Child labour

Children who perform hazardous work as well as children who, due to their age or working hours, are considered to be facing various risks to their physical, social, psychological or educational development as a result of employment are categorized as child labourers (see Section 1.3 on definitions). There are an estimated 29,225 child labourers in Jordan – amounting to 1.6 percent of all children aged 5-17, and 88.1 percent of all children in employment. These figures indicate that although the proportion of children in employment in Jordan is low, the majority of those who are employed face various risks. In line with their low employment rates, girls constitute only 9.3 percent of child labourers.

The majority (83.4%) of children classified as child labourers fall into this category simply because of their working conditions, which includes the number of hours worked, while the remainder are classified as child labourers because of their occupation or sector of economic activity. These findings indicate that child labour could be reduced considerably simply by regulating the working conditions of children in their existing jobs.

In terms of sector and occupation, the distribution of child labourers is in line with the distribution of children in employment in general. Over three-quarters of child labourers can be found in one of three sectors, namely, agriculture and fishing (25.6%), manufacturing (15.9%) and wholesale/retail trade (37.1%) (Table 2.28). Over one-third of child labourers are employed as craft or related trades workers, 23.9 percent as service/sales workers, 25 percent as skilled or

elementary agricultural workers and 12.6 percent as elementary non-agricultural workers (Table 2.29).

Table 2.28 Distribution of child laborers by sector of economic activity (%)		
	Children in employment	**Child Laborers**
Agriculture & fishing	27.53	25.55
Mining	0.50	0.57
Manufacturing	15.78	15.88
Electricity, gas, water	0.45	0.51
Construction	7.96	9.04
Wholesale and retail trade	36.31	37.05
Hotels and restaurants	3.32	3.77
Transport, storage	2.58	2.74
Real estate	0.85	0.62
Personal and community services	4.28	4.27
Private households	0.44	-

Table 2.29 Distribution of child laborers by occupation (%)		
	Children in employment	**Child Laborers**
Service/sales worker	23.78	23.92
Skilled agricultural worker	16.69	14.60
Craft/related trades worker	33.30	35.59
Plant and machine operators, assemblers	1.91	2.17
Elementary agricultural worker	10.35	10.38
Elementary occupations other than agriculture	13.17	12.59

While the majority (65.5%) of child labourers are employed as wage earners, a sizeable proportion (29.8%) are employed as unpaid family workers, indicating that simply working alongside family members does not protect children from unfavourable working conditions.

2.4 Household characteristics of working children

2.4.1 Household size and composition

Households of children aged 5-17 consist of 7.3 members, nearly half of whom are children aged 5-17 (Table 2.30). When younger children aged 0-4 are considered, the share of children in the household increases to 58.3 percent. Working-age adults aged 18-64, on the other hand, make up 40.7 percent of all household members. Working children and child labourers come from slightly

larger-than-average households (7.8 members) that contain a larger proportion of working-age adults ($p<0.06$) and children aged 5-17 ($p<0.06$).

Table 2.30 Household size and composition			
	All households with children aged 5-17	**Households with children in employment**	**Households with child Laborers**
Household size	7.25 (2.12)	7.75 (2.45)	7.74 (2.42)
Household composition (%)			
Individuals 0-4 years	10.27	7.44	7.72
Individuals 5-17 years	48.09	49.45	49.76
Individuals 18-64 years	40.66	42.17	41.71
Individuals 65 years and over	0.98	0.94	0.80
Note: Households with children aged 5-17 are considered only. Figures in parentheses are standard deviations.			

2.4.2 Household income and expenditures

Working children and child labourers come from households with lower incomes and expenditures (excluding children's earnings) (Table 2.31). The estimated average monthly household expenditures of households with working children (253 JD) are approximately 25 percent lower than the average among all households with children (348 JD). In terms of income, the average monthly household income of working children is estimated to be approximately 15 percent lower than the average among all households with children. In fact, because the contributions of children employed as unpaid family workers could not be subtracted from total household income or expenditures, the actual household incomes and expenditures of children in employment must be lower than the estimates. Moreover, the relative economic standing of working children is found to worsen when income and expenditure are adjusted to account for differences in household size and composition, with the expenditure gap widening to 35 percent and the income gap to 23 percent.

Table 2.31 Average monthly household income and expenditure (in JD)			
	All households with children aged 5-17	**Households with children in employment**	**Households with child laborers**
Household expenditure	348.0 (318.6)	253.2 (229.1)	249.4 (238.0)
Household income	405.4 (431.5)	350.9 (328.4)	347.0 (341.0)
Household expenditure per adult equivalent*	134.3 (133.5)	86.8 (85.1)	85.9 (89.2)
Household income per adult equivalent*	155.6 (181.2)	120.4 (111.4)	119.4 (115.8)
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.			

When examined according to household income and expenditure quintiles (based on household income/expenditure values for each individual, corrected for household size and composition), the prevalence of employment and child labour are shown to be highest among children from the poorest households, regardless of whether household economic status is measured by income or expenditure (Table 2.32). For instance, the rate of child employment among children from the bottom 20 percent of households by expenditure is 4.1 percent, compared to only 0.6 percent among children from the top 20 percent. However, it should be noted that the fall in the prevalence of employment in terms of expenditure groups is not uniform, but show a sharp decline between the first and second quintiles and an increase between the third and fourth quintiles. In contrast to the pattern observed for expenditure quintiles, the decline in the prevalence of employment is in line with income quintiles, with the prevalence of child employment among households in the top income quintile (1.4%) only half of that found in the bottom quintile (2.8%).

Table 2.32 Prevalence of work among children, by income and expenditure quintiles

Household expenditure	**Prevalence of employment**	**Prevalence of child labor**	**Distribution of children**
Lowest 20%	4.07	3.67	20.93
Second 20%	1.72	1.54	20.86
Third 20%	1.28	1.06	20.20
Fourth 20%	1.42	1.20	19.91
Highest 20%	0.59	0.52	18.10
Household income			
Lowest 20%	2.79	2.53	21.29
Second 20%	1.82	1.62	21.20
Third 20%	1.68	1.50	20.21
Fourth 20%	1.49	1.27	19.19
Highest 20%	1.39	1.16	18.12

Notes: 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.

A better representation of a household's economic status over the long-term can be obtained by constructing an index of household durables.[1] On a scale of 0-15, the Asset Index of households with children aged 5-17 was found to be 7.1 (sd. 2.4), compared to only 6.2 (sd. 2) among

[1] The Asset Index is constructed by giving a score of one to each durable good owned by the household, so that the index increases by one unit for the ownership of each one of the following: car, TV, DVD/video, washing machine, dishwasher, refrigerator, computer, satellite dish, telephone, cell phone, freezer, microwave oven, internet connection, air conditioner, and vacuum cleaner.

working children and child labourers. This drop of close to one point again indicates that children in employment come from households that are relatively less well-off than households of children in general.

2.4.3 Migration status

Migrant households[2] constitute 9.6 percent of all households in Jordan that contain children aged 5-17. On average, these households have been at their present location for about 10 years. The estimated employment rate among migrant children (2.3%) is higher than that of non-migrant children (1.8%); however, the difference is not statistically significant. Even among older children aged 15-17, employment rates remain similar between migrant (5.7%) and non-migrant (5.8%) children.

2.4.4 Female-headed households

Female-headed households constitute 6.1 percent of all households with children aged 5-17. Over 99 percent of the female heads do not have a spouse residing in the household. The employment rate among children living in female-headed households (2.8%) is higher than that of children living in male-headed households (1.8%); however, the difference is not statistically significant. Even among older children aged 15-17, employment rates remain similar between children from households headed by women (6.2%) and men (5.7%) ($p<0.42$).

It is also interesting to note that there is no statistical difference between the household expenditure or income (corrected for household size and composition) of male- and female-headed households, which may help to explain why the employment rates of children are not affected by this difference in household structure.

2.4.5 Urban-rural differentiation

Urban areas are defined as localities with a population of 5,000 or more. Less than one-fifth (18.2%) of children aged 5-17 live in rural areas. There is no difference between the prevalence of child employment in urban (1.8%) and rural (2.2%) areas, nor is there a difference between the prevalence of child labour in urban (1.6%) and rural (1.9%) areas.

[2] Migration status was determined by asking the respondent whether the household has ever changed its place of residence.

Whereas the prevalence of employment among boys is similar between rural (3.1%) and urban (3.2%) areas, employment among girls, although very rare in general, is statistically higher in rural areas (1.1%) when compared to urban areas (0.3%).[3]

2.4.6 Regional differentiation

In examining child employment by region, the CLS found that the Amman Governorate accounted for 36.5 percent of the population of children aged 5-17 in Jordan, but only 32.4 percent of all children in employment. However, there was no statistical difference between the prevalence of child employment in the Amman Governorate (1.7%) and in the rest of the country (2.0%) (Table 2.33). Yet, whereas the prevalence of employment among boys in Amman (3.1%) and in the remainder of the country (3.2%) is similar, in line with the finding of higher employment among girls in rural areas, employment among girls in Amman is extremely low (at 0.1%) in comparison to girls in the rest of the country (0.6%).

Table 2.33 Prevalence of child employment and child labor by region and age group

	Age 5-17	Age 5-14	Age 15-17
Amman – Employment	1.65	0.48	5.83
Amman - Child Labour	1.51	0.47	5.22
Other governorates – E	1.98	0.99	5.71
Other governorates – CL	1.71	0.92	4.68

When looked at by age, small but statistically significant differences can be noted between the prevalence of employment and child labour among children younger than 12 years of age in Amman when compared to the rest of the country; however, similar differences were not found among older children aged 15-17 (Table 2.33). This may be due to Amman's urban character, which offers limited job opportunities for very young children.

[3] Estimates may be affected by the small size of the sample of girls in employment (rural areas: n=20; urban areas: n=34).

SECTION 3

Determinants of child employment -Child labour and schooling

This section of the report examines the determinants of child employment, child labour and school attendance within a multivariate framework that explores possible connections between the factors identified in Section 2 of this report and children's work and school outcomes. Since decisions regarding time use and other options open to children differ depending on whether they live with their parents or have set up their own households, 106 children identified as married or as household heads were dropped from the original sample of 24,319 children aged 5-17, leaving a working sample of 24,213 children.

A rich literature on child employment and schooling has identified the following main determinants:[4]

- Age of the child. Older children are expected to have a higher likelihood of employment, since the opportunity cost of time spent away from work – i.e., the forgone wage or loss of economic output – increases with age. For the same reason, the opportunity cost of schooling increases with age, which reduces the likelihood of older children attending school.

- Sex of the child: Girls usually have a lower likelihood of employment than boys, but a higher likelihood of performing unpaid household services (chores). A number of explanations have been proposed to explain this systematic difference. According to one argument, girls have 'comparative advantage' over boys in performing unpaid household services, perhaps because they work more closely with and thus learn from their mothers. Another argument suggests that unpaid household services performed at home have been defined as socially acceptable work activities and environments for girls.

- Parental age and education. Younger parents are likely to be more educated as a result of general trends towards increased schooling over the long-term. To the extent that more educated parents also demand more schooling for their children, children with younger and more educated parents are more likely to attend school and less likely to enter employment. Education and age can also be indicators of the earning capacity of parents, in which case children of younger and less educated parents would be at a disadvantage; however, to the extent that the Asset Index (explained below) is able to properly measure household income status, parental age and education can be expected to represent something other than income capacity.

- Female head of household. Female headship often indicates that the male breadwinner is either absent from the household or unable to work. This has two implications: (1) If the

[4] For a recent review, see Edmonds (2005). For an earlier review, see Basu and Van (1998).

absent bread-winner does not remit back, the household income will be lower, increasing the risk of a child dropping out of school and/or entering work; and (2) If it is the father's networks that help place a child in a job, the father's absence will reduce the risk of a child dropping out of school and/or entering work. Again, to the extent that the Asset Index is able to measure household income status, female headship should signify a factor not related to income.

- Size and age composition of household. Age composition of the household (measured as the proportion of household members of different ages) shows the ratio of dependents to working-age adults. The larger the share of dependents, the higher the risk of a child entering employment and/or dropping out of school.

- Migration status of household. The household's resource base and the networks available to them in their new place of residence may increase or decrease the likelihood of migrant children entering employment or attending school. A household that has moved due to financial concerns may be expected to economically mobilize all able-bodied household members, including children; however, the earning capacity of adults in the new place of residence may affect decisions regarding children's employment and schooling. New residents may also lack the necessary networks to find employment for themselves and their children as well as the financial resources required to set up a business.

- Agricultural assets. Studies have repeatedly shown that children are more likely to work when a household establishment exists.[5] Because the CLS does not provide direct data on the existence of an agricultural establishment, agricultural assets such as arable land and livestock are used here as a proxy for such an establishment.

- 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 expenditure and income variables available in the survey data set for the primary reason that the Asset Index is more likely to provide a longer term representation of the economic standing of the household. Alternatively, income and expenditure quintiles are used as a robustness check in measuring the effects of household income on child employment.

- Region of residence. Local labour markets and the quality of schooling may differ by region of residence. This analysis distinguishes between urban and rural areas and between the Amman Governorate and the remainder of Jordan.

Separate analyses of boys' and girls' employment could not be conducted due to the small sample of employed girls; however, the sample size was sufficient to allow for separate analyses of boys' and girls' school attendance.

[5] For a discussion on the correlation between child employment and household establishments, see, in particular, Bhalotra and Heady (2003) and Basu, Das and Dutta (2009).

3.1 Determinants of child work

The results of multivariate analysis of child employment are provided in the first two columns of Table 3.1. The model predicts the probability of employment among children (at the mean of the variables used in the model) to be 0.3 percent. This is considerably lower than the 1.9 percent observed probability of employment among children in Jordan and it indicates that there are certain specific characteristics shared by children in employment that distinguish them from the overall child population.

Table 3.1 Likelihood of child employment and child labour based on probit equations

	Child employment		Child labour	
	Coefficient (std.error)	Marginal effect	Coefficient (std.error)	Marginal effect
Child's age	0.180***	0.001***	0.166***	0.001***
	[0.014]	[0.000]	[0.014]	[0.000]
Female child	-0.909***	-0.009***	-0.944***	-0.008***
	[0.081]	[0.001]	[0.090]	[0.001]
Own child of household head	-0.171	-0.002	-0.241	-0.002
	[0.170]	[0.002]	[0.171]	[0.002]
Father's age	-0.028	0.000	-0.038	0.000
	[0.042]	[0.000]	[0.043]	[0.000]
Father's age squared (1/100)	0.025	0.000	0.035	0.000
	[0.039]	[0.000]	[0.040]	[0.000]
Father's educ.: Basic	0.003	0.000	-0.017	0.000
	[0.133]	[0.001]	[0.136]	[0.001]
Father's educ.: Vocational	-0.052	0.000	-0.028	0.000
	[0.222]	[0.002]	[0.223]	[0.002]
Father's educ.: Secondary	-0.299**	-0.002**	-0.340**	-0.002**
	[0.142]	[0.001]	[0.146]	[0.001]
Father's educ.: Diploma	-0.387**	-0.002**	-0.368**	-0.002**
	[0.183]	[0.001]	[0.186]	[0.001]
Father's educ.: University	-0.660***	-0.003***	-0.779***	-0.003***
	[0.202]	[0.001]	[0.202]	[0.001]
Father absent	-0.98	-0.003	-1.281	-0.003
	[1.112]	[0.001]	[1.121]	[0.001]
Mother's age	0.119**	0.001**	0.120**	0.001**
	[0.049]	[0.000]	[0.050]	[0.000]
Mother's age squared (1/100)	-0.139**	-0.001**	-0.137**	-0.001**
	[0.055]	[0.001]	[0.056]	[0.001]
Mother's educ.: Basic	-0.339***	-0.002***	-0.261**	-0.002**
	[0.101]	[0.001]	[0.103]	[0.001]
Mother's educ.: Vocational	-0.179	-0.001	-0.125	-0.001
	[0.380]	[0.002]	[0.380]	[0.002]
Mother's educ.: Secondary	-0.516***	-0.004***	-0.472***	-0.003***
	[0.116]	[0.001]	[0.117]	[0.001]
Mother's educ.: Diploma	-0.446**	-0.002**	-0.377**	-0.002**
	[0.184]	[0.001]	[0.187]	[0.001]
Mother's educ.: University	-0.596**	-0.003**	-0.511**	-0.002**
	[0.233]	[0.001]	[0.244]	[0.001]
Mother absent	2.639**	0.417**	2.726**	0.438**
	[1.080]	[0.419]	[1.094]	[0.429]

Female head of household	-0.029	0.000	0.03	0.000
	[0.179]	[0.001]	[0.169]	[0.001]
Household size	-0.018	0.000	-0.013	0.000
	[0.015]	[0.000]	[0.015]	[0.000]
Proportion of children 5-17	-0.545	-0.004	-0.526	-0.004
	[0.419]	[0.004]	[0.424]	[0.003]
Proportion of adults 18-64	-1.169***	-0.009**	-1.212***	-0.009***
	[0.379]	[0.004]	[0.388]	[0.004]
Proportion of adults 65 and older	-2.134***	-0.017***	-2.794***	-0.021***
	[0.819]	[0.008]	[0.920]	[0.008]
Asset Index	-0.033**	-0.000**	-0.035**	-0.000**
	[0.017]	[0.000]	[0.016]	[0.000]
HH owns any land	-0.028	0.000	0.013	0.000
	[0.137]	[0.001]	[0.133]	[0.001]
HH owns arable land	0.092	0.001	0.037	0.000
	[0.158]	[0.002]	[0.156]	[0.001]
HH own livestock	0.284***	0.003***	0.230**	0.002**
	[0.099]	[0.001]	[0.103]	[0.001]
Migrant	0.337**	0.004**	0.348**	0.004**
	[0.155]	[0.003]	[0.158]	[0.003]
If migrant, years in present location	-0.016	0.000	-0.016	0.000
	[0.011]	[0.000]	[0.011]	[0.000]
Unexpected event affecting household	0.128	0.001	0.129	0.001
	[0.079]	[0.001]	[0.082]	[0.001]
Amman	-0.045	0.000	-0.023	0.000
	[0.060]	[0.001]	[0.061]	[0.000]
Rural	-0.086	-0.001	-0.079	-0.001
	[0.111]	[0.001]	[0.115]	[0.001]
Constant	-4.109***		-3.762***	
	[1.028]		[1.029]	
Observed probability	0.019		.016	
Predicted probability at mean	0.003		.002	
Wald chi2(33)	518.16		437.87	
Prob > chi2	0.000		0.000	
Pseudo R^2	0.267		0.258	
Observations	24,213		24,213	

Notes: Robust standard errors are in brackets. Reference categories for dummy variables include no schooling/non-standard curriculum for maternal and paternal schooling, proportion of 0-4 year-olds for household composition. * significant at 10%; ** significant at 5%; *** significant at 1%.

Among a child's individual characteristics, age and sex were both found to be strongly correlated with a child's likelihood of employment. In line with theory, older children are at a higher risk of employment than younger children. Boys are also at a higher risk of employment than girls, which is in line with what is observed in many developing countries. The relationship to the household head does not appear to affect a child's risk of employment.

Among parental characteristics, parent's education was found to have an important affect on a child's likelihood of employment. Children whose fathers have above vocational schooling have a reduced risk of employment. Children whose mothers have basic education or above (with the

exception of vocational training) also have a lower likelihood of employment. Neither father's age nor absence from the household appears to have an impact on the risk of child employment; however, children with older mothers and children whose mothers are absent from the household are at a higher risk. With regard to the risk associated with the mother's age, this risk increases at a decreasing rate with mother's age.

Table 3.2 Effect of expenditure quintiles on the likelihood of child employment

	Child employment		Child labour	
Expenditure Quintiles (Reference category: Top 20%)	Coefficient (std.error)	Marginal Effect	Coefficient (std.error)	Marginal Effect
Lowest 20%	0.505***	0.006***	0.471***	0.005***
	[0.141]	[0.003]	[0.141]	[0.002]
Second 20%	0.238*	0.002*	0.197	0.002
	[0.134]	[0.002]	[0.135]	[0.001]
Third 20%	0.129	0.001	0.065	0.000
	[0.132]	[0.001]	[0.137]	[0.001]
Fourth 20%	0.277**	0.003**	0.232*	0.002*
	[0.127]	[0.002]	[0.132]	[0.001]

Notes: Robust standard errors are in brackets. Other variables included in the model are identical with those in Table 3.1. * significant at 10%; ** significant at 5%; *** significant at 1%.

In terms of household characteristics, while household size is not a correlate of child employment, the composition of the household is. Children whose households comprise a larger proportion of adults have a lower likelihood of employment. Children who live in wealthier households (as measured by the Asset Index) also have a lower likelihood of employment.

In order to check whether or not this finding is sensitive to the method used to determine household economic status, the model was re-estimated using household expenditures in place of the Asset Index as an indicator of the household's financial standing. This procedure appeared to confirm the conclusion that children from wealthier households are less likely to be employed. As Table 3.2 highlights, children who live in households positioned lower in the income distribution have a higher likelihood of employment. However, it should be noted that the effect of income is not linear; in other words, while children from the bottom and the second expenditure quintile have a higher likelihood of employment, those from the third quintile have the same risk of employment as those from the top (fifth) quintile and those from the fourth quintile have a higher likelihood of employment than those from both the third and top quintile. It is possible that the non-linear effect of income is a result of greater opportunities for work created by the presence of

household establishments among households with moderate economic standing.[6] Indeed, non-wage work among children was found to be lowest among households in the bottom quintile and to increase with household economic status. Specifically, while 33.3 percent of working children in the bottom quintile were employed as non-wage workers, this figure is 41.2 percent for children in the second quintile, 39.1 percent for those in the third, 42.3 percent for those in the fourth and 44.6 percent for those in the top quintile. As discussed earlier, while household establishments may reduce child employment by providing income to the household, they also provide children with work opportunities, thereby increasing their risk of employment.

Another household characteristic found to increase the likelihood of child employment is ownership of livestock. The ownership of livestock signifies the existence of a household establishment, which is a source of demand on children's time. Interestingly, land ownership, whether arable or not, was not found to be a correlate of child employment, possibly because of the limited agricultural activities in Jordan due to water shortages.

The household's migration status was also found to be correlated with child employment, with children of migrants at a higher risk of employment than non-migrant children.
Place of residence (the Amman Governorate, rural/urban areas) was not found to be correlated with child employment.

3.2 Determinants of child labour

Because the majority (almost 90%) of children in employment are classified as child labourers, it is not surprising that the factors determining child labour and child employment show similarities (Table 3.1, columns 3 and 4). To reiterate, older children are at a higher risk of becoming child labourers than younger children, and boys are at a higher risk than girls. Children of migrants, those with less educated parents or older mothers, those from poorer households, from households with a smaller proportion of adults, or from households that own livestock are also more likely to work as child labourers than other children in employment.

When the model was re-estimated by replacing the Asset Index with consumption quintiles, children in the bottom quintile were found to be at a higher risk of becoming child labourers as compared to those from the top quintile. (Table 3.2, columns 3 and 4). Interestingly, children

[6] As noted earlier, we were not able to fully correct household consumption for the contributions of working children. This may be distorting the ordering of households by income status.

from the fourth quintile (but not from the second or third quintiles) were also found to face a higher risk of becoming child labourers (although this effect is only significant at the 10% level). The explanations offered to account for the non-linear effect of income on child employment probably holds true for child labour as well, since, as discussed earlier, what differentiates child labourers from working children in Jordan is not so much the types of occupations/industries in which they are employed, but rather, their working conditions.

3.3 Determinants of child schooling

As discussed earlier in Section 2.2.2, school attendance is very high in Jordan among both boys and girls. While the observed probability of school attendance among boys aged 6-17 is 94.4 percent, among girls, this figure increases to 96.4 percent. The model predicts slightly higher school attendance rates for both girls (98.8%) and boys (97.7%), indicating that an 'average' child in Jordan, whether male or female, is expected to attend school (Table 3.3).

Table 3.3 Likelihood of school attendance based on probit equations

	All children		Boys		Girls	
	Coef. (std.error)	Marginal effect	Coef. (std.error)	Marginal effect	Coef. (std.error)	Marginal effect
Child's age	-0.135***	-0.006***	-0.151***	-0.008***	-0.112***	-0.004***
	[0.009]	[0.000]	[0.012]	[0.001]	[0.013]	[0.000]
Female child	0.262***	0.012***				
	[0.036]	[0.002]				
Own child of household head	0.021	0.001	-0.041	-0.002	0.11	0.004
	[0.135]	[0.006]	[0.159]	[0.008]	[0.226]	[0.009]
Father's age	-0.017	-0.001	0.002	0.000	-0.045	-0.001
	[0.024]	[0.001]	[0.031]	[0.002]	[0.035]	[0.001]
Father's age squared (1/100)	0.014	0.001	-0.004	0.000	0.042	0.001
	[0.023]	[0.001]	[0.030]	[0.002]	[0.033]	[0.001]
Father's educ.: Basic	0.283***	0.012***	0.283***	0.015***	0.280***	0.008***
	[0.085]	[0.003]	[0.105]	[0.005]	[0.109]	[0.003]
Father's educ.: Vocational	0.405*	0.012*	0.316	0.013	0.608*	0.010*
	[0.209]	[0.004]	[0.230]	[0.007]	[0.343]	[0.003]
Father's educ.: Secondary	0.583***	0.021***	0.600***	0.027***	0.556***	0.014***
	[0.098]	[0.003]	[0.121]	[0.005]	[0.131]	[0.003]
Father's educ.: Diploma	0.528***	0.016***	0.777***	0.025***	0.229	0.006
	[0.119]	[0.002]	[0.153]	[0.003]	[0.151]	[0.003]
Father's educ.: University	0.702***	0.020***	0.728***	0.026***	0.700***	0.013***
	[0.140]	[0.003]	[0.174]	[0.004]	[0.215]	[0.003]
Father absent	-0.17	-0.009	0.17	0.008	-0.577	-0.032
	[0.640]	[0.039]	[0.799]	[0.033]	[0.956]	[0.083]
Mother's age	0.024	0.001	0.03	0.002	0.018	0.001
	[0.029]	[0.001]	[0.036]	[0.002]	[0.043]	[0.001]
Mother's age squared (1/100)	-0.025	-0.001	-0.031	-0.002	-0.02	-0.001
	[0.033]	[0.001]	[0.041]	[0.002]	[0.050]	[0.002]
Mother's educ.: Basic	0.277***	0.011***	0.306***	0.015***	0.225**	0.007**
	[0.071]	[0.003]	[0.086]	[0.004]	[0.098]	[0.003]

Mother's educ.: Vocational	0.206	0.008	0.348	0.014	-0.034	-0.001
	[0.353]	[0.010]	[0.403]	[0.011]	[0.543]	[0.018]
Mother's educ.: Secondary	0.507***	0.020***	0.487***	0.024***	0.540***	0.015***
	[0.081]	[0.003]	[0.095]	[0.005]	[0.118]	[0.003]
Mother's educ.: Diploma	0.723***	0.020***	0.674***	0.024***	0.826***	0.015***
	[0.119]	[0.002]	[0.145]	[0.004]	[0.180]	[0.002]
Mother's educ.: University	0.581***	0.016***	0.449**	0.017***	1.020***	0.014***
	[0.171]	[0.003]	[0.198]	[0.005]	[0.365]	[0.002]
Mother absent	0.279	0.01	0.58	0.019	-0.149	-0.006
	[0.629]	[0.016]	[0.793]	[0.013]	[0.925]	[0.040]
Female head of household	0.149	0.006	0.261	0.012	-0.015	0.000
	[0.143]	[0.005]	[0.161]	[0.006]	[0.227]	[0.007]
Household size	0.000	0.000	-0.007	0.000	0.008	0.000
	[0.010]	[0.000]	[0.012]	[0.001]	[0.016]	[0.000]
Proportion of children 5-17	0.384	0.017	0.298	0.017	0.449	0.014
	[0.260]	[0.012]	[0.315]	[0.017]	[0.373]	[0.012]
Proportion of adults 18-64	0.078	0.004	-0.063	-0.004	0.236	0.007
	[0.271]	[0.012]	[0.332]	[0.018]	[0.383]	[0.012]
Proportion of adults 65 and older	1.135**	0.051**	1.423*	0.079*	0.617	0.019
	[0.573]	[0.026]	[0.796]	[0.044]	[0.789]	[0.025]
Asset Index	0.116***	0.005***	0.112***	0.006***	0.129***	0.004***
	[0.012]	[0.001]	[0.015]	[0.001]	[0.018]	[0.001]
HH owns any land	0.161	0.007	0.099	0.005	0.311	0.008
	[0.120]	[0.004]	[0.146]	[0.007]	[0.191]	[0.004]
HH owns arable land	0.028	0.001	-0.028	-0.002	0.08	0.002
	[0.139]	[0.006]	[0.172]	[0.010]	[0.213]	[0.006]
HH own livestock	0.002	0.000	0.006	0.000	-0.001	0.000
	[0.072]	[0.003]	[0.088]	[0.005]	[0.102]	[0.003]
Migrant	-0.266**	-0.015**	-0.198	-0.013	-0.350*	-0.015*
	[0.130]	[0.009]	[0.138]	[0.010]	[0.182]	[0.011]
If migrant, years in present location	0.017*	0.001*	0.014	0.001	0.019	0.001
	[0.009]	[0.000]	[0.009]	[0.001]	[0.013]	[0.000]
Unexpected event affecting household	-0.069	-0.003	-0.094	-0.006	-0.036	-0.001
	[0.062]	[0.003]	[0.079]	[0.005]	[0.087]	[0.003]
Amman	-0.156***	-0.007***	-0.188***	-0.011***	-0.112*	-0.004*
	[0.043]	[0.002]	[0.054]	[0.003]	[0.063]	[0.002]
Rural	0.249***	0.010***	0.268***	0.013***	0.232**	0.006**
	[0.067]	[0.002]	[0.084]	[0.003]	[0.093]	[0.002]
Constant	1.452**		1.275		1.984**	
	[0.625]		[0.815]		[0.920]	
Observed probability	0.954		0.944		0.964	
Predicted probability at mean	0.982		0.977		0.988	
Wald chi2(33)	730.80		448.03		412.40	
Prob > chi2	0.000		0.000		0.000	
Pseudo R^2	0.224		0.229		0.221	
Observations	22,312		11,491		10,821	

Notes: Robust standard errors are in brackets. Covers children ages 6-17. Reference categories for dummy variables include no schooling/non-standard curriculum for maternal and paternal schooling, proportion of 0-4 year-olds for household composition .* significant at 10%; ** significant at 5%; *** significant at 1%.

Among a child's individual characteristics, age and sex were, again, both found to strongly correlate with schooling. A child's likelihood of dropping out of school was found to increase with age, which is consistent with the earlier finding that the relatively lower attendance rates

among older children is what prevents school attendance from being universal. Boys are also more likely to drop out of school than girls. This may be due to the fact that there are more opportunities for boys to be employed in the marketplace, which makes the opportunity cost of schooling higher for boys than for girls. As noted earlier, boys not only enter the labour market in greater numbers than girls, but also as wage earners with substantial work hours, and while non-wage work may offer flexibility in arranging work hours over the workday/workweek, wage work is undoubtedly more rigid, making it difficult for children to both work and attend school. The relationship to the household head does not appear to affect a child's school enrolment.

Among parental characteristics, father's and mother's schooling were found to positively correlate with children's school attendance. Children whose parents have basic schooling or above (with the exception of vocational training among mothers) are more likely to attend school than other children. Neither parent's age nor their absence from the household appears to affect children's school attendance.

In terms of household characteristics, in households with a higher proportion of elderly members (age 65 and older), boys (but not girls) are more likely to attend school than other children. Conversely, among migrant households, girls (but not boys) are less likely to attend school than other children, although this affect decreases with the time spent at the new location. This may have to do with a higher likelihood of girls entering market work at the new location. In line with the understanding that child employment represents a coping strategy for migrant households, the multivariate analysis (see Table 3.1 above) showed that children from migrant households were more likely to work than other children; therefore, to the extent that employment among girls from migrant households takes the form of wage work with substantial hours, they would also be less likely to attend school. Indeed, 77.4 percent of employed girls from migrant households work as wage earners, compared to only 18.8 percent of employed girls from non-migrant households. Although there is also a gap in the degree of wage work between migrant and non-migrant boys – 86.8 percent and 64.2 percent, respectively – it is less drastic than the one existing between girls.

Although no relationship was found between agricultural assets and children's school attendance, household durables (as measured by the Asset Index) were found to be positively associated with children's schooling. In other words, children who come from wealthier households are more likely to attend school than other children. Again, to see if this finding is affected by the

procedure used to define household economic status, the model was re-estimated using expenditure quintiles in place of the Asset Index. As Table 3.4 shows, once again, both boys and girls from lower income households were found to face higher risks of not attending school. However, these risks were found to vary sharply between girls and boys. While the risk of dropping out of school is higher among girls from households in the bottom quintile, heightened risks are observed among boys from households in the bottom 60 percent. Differences in risks between boys and girls in the same quintile are likely to be related to the different time-use patterns of boys and girls. As noted earlier, girls are more likely than boys to perform unpaid household services, which is not likely to preclude their school attendance. Moreover, girls in employment are most likely to be unpaid family workers, which entails relatively fewer and more flexible work hours than wage work and would not be likely to prevent their school attendance. In fact, the higher risk of non-attendance among girls in the bottom quintile may stem partly from a higher likelihood of employment, particularly a higher likelihood of wage work.

Table 3.4 Effect of expenditure variables on the likelihood of child schooling

	Boys		Girls	
Expenditure Quintiles (Reference category: Top 20%)	Coefficient (std.error)	Marginal effect	Coefficient (std.error)	Marginal effect
Lowest 20%	-0.738***	-0.064***	-0.255**	-0.010**
	[0.117]	[0.015]	[0.115]	[0.005]
Second 20%	-0.395***	-0.028***	-0.052	-0.002
	[0.114]	[0.010]	[0.117]	[0.004]
Third 20%	-0.305**	-0.020**	0.085	0.003
	[0.119]	[0.010]	[0.125]	[0.004]
Fourth 20%	-0.131	-0.008	0.126	0.004
	[0.113]	[0.007]	[0.127]	[0.004]

Notes: Robust standard errors in brackets. Other variables included in the model are same as in Table 3.4.
* significant at 10%; ** significant at 5%; *** significant at 1%.

In terms of place of residence, children living in the Amman Governorate and children living in urban as opposed to rural areas are less likely to attend school than other children. Again, these findings are more likely to be related to different types of work carried out in different places rather than to variations in access to education. Indeed, 79.5 percent of employed children in Amman work as wage earners, compared to 54.3 percent of employed children in other governorates. Likewise, 69.3 percent of employed children in urban areas work as wage earners, compared to 36.5 percent of employed children in rural areas. Hence, it can be suggested that the types of work children perform in rural areas do not inhibit their school attendance, whereas the types of work children perform in urban areas – particularly in the capital city, Amman – make it more difficult for them to attend school.

SECTION 4

Health and school outcomes of children in employment

This section of the report looks at the health and school outcomes of children in employment. Health outcomes are measured through a series of indicators describing the actual illnesses/injuries experienced by children in employment during the year preceding the survey, their working conditions and their treatment at work. School outcomes are assessed on the basis of school attendance, school starting age and school days missed. Analyses of both health and school outcomes are based on children's responses to the relevant questions in the CLS. School outcomes are provided for both children in employment and children not in employment in order to allow for comparisons between the two groups. However, any discrepancies between the groups cannot be considered to be the result of negative consequences of work, since both outcomes (i.e. employment and school attendance) are determined simultaneously.

4.1 Health outcomes of children in employment

Among children employed at any time during the year preceding the survey, 40.8 percent reported having suffered from some sort of work-related illness or injury (Table 4.1). Sizeable proportions also complained about extreme fatigue (28.8%), minor injuries and cuts (15.4%) and respiratory, eye or skin problems (15.4%).

Table 4.1 Work-related illnesses/injuries of children (%)

Type of illness/injury suffered	% of children in employment
Superficial cuts/injuries	15.35
Fracture	1.42
Dislocation/sprain	2.80
Burns, corrosions, frostbite	1.32
Respiratory-related problem	5.22
Eye problem	4.96
Skin problems	5.20
Stomach problem/diarrhea	1.19
Fever	0.81
Extreme fatigue	28.81
Other	2.35
Any illness/injury	40.78
Number of children in employment as reported by children	48,218

Note: The reference period for employment is the year preceding the survey.

Although the proportion of working children suffering from an illness or injury is sizeable, in most cases (86.2%), the reported injury/illness was not found to be serious enough to stop the child from going to work or school (Table 4.2). However, in 11.6 percent of cases, children reported ceasing to attend school or work temporarily, and in 2.2 percent of cases, permanently.

Table 4.2 Consequences of child's most serious work-related illness/injury (%)

Consequence	% of children in employment reported to suffer from an illness/injury
Not serious – did not stop work or going to school	86.24
Stopped work or attending school for a short time	11.60
Stopped work or attending school completely	2.15
Number of children in employment as reported by children	19,662

Note: The reference period for employment is the year preceding the survey.

In terms children's work environments, 20.8 percent of children in employment were found to work in dusty environments, 19.3 percent under extreme cold or heat and 13.4 percent with too much noise/vibration (Table 4.3). Another 10.9 percent work with dangerous tools, 6.8 percent with chemicals and 4.6 percent at heights. Overall, 4 out of 10 children were found to have unfavourable work environments. In addition, 11 percent were found to carry heavy loads at work, and 6.5 percent were found to operate heavy machinery at work.

Table 4.3 Proportion of children subjected to unfavourable work environments (%)

Work environment	% of children in employment
Dust/fumes	20.82
Fire, gas, flames	4.89
Loud noise or vibration	13.37
Extreme cold or heat	19.25
Dangerous tools	10.94
Work underground	0.67
Work at heights	4.64
Work in water/lake/pond/river	0.35
Workplace too dark or confined	1.15
Insufficient ventilation	2.12
Chemicals	6.84
Explosives	0.71
Other	0.71
Any of above	40.58
No of children in employment as reported by children	48,218

Furthermore, 12.1 percent of children in employment were found to be subjected to unfavourable treatment at the workplace, 11.3 percent were constantly shouted at, 4.8 percent were repeatedly

insulted and 2.1 percent were physically abused (Table 4.4). Given that the overwhelming majority of children were not interviewed alone during the survey, these complaints might be underestimated.

Table 4.4 Children subjected to unfavourable treatment at work (%)	
Treatment	**% of children in employment**
Constantly shouted at	11.26
Repeatedly insulted	4.75
Beaten/physically abused	2.09
Sexually abused	-
Other	0.20
Any of the above	12.09
No of children in employment as reported by children	48,218

An analysis of the employment status of those children who reported suffering from unfavourable conditions at work indicates that the majority (70%) of those who suffered from a work-related injury/illness are wage earners (Table 4.5). Children in

Table 4.5 Distribution of children working under unfavourable conditions by status in employment (%)			
	Employee/ wage worker	**Own account worker/employer**	**Unpaid family worker**
Any injury/illness: YES	70.03	3.33	26.64
Any injury/illness: NO	66.05	2.51	31.43
Unfavourable work environment: YES	68.98	2.61	28.41
Unfavourable work environment: NO	66.9	3.11	30
Shouted at: YES	65.01	3.6	31.39
Shouted at: NO	68.24	2.78	28.98
Insulted at: YES	51.58	3.51	44.91
Insulted at: NO	68.69	2.85	28.45
Beaten/physically hurt: YES	28.51	-	71.49
Beaten/physically hurt: NO	68.89	2.96	28.15

wage work also account for the majority of those who reported some type of risk related to the work environment. In contrast, unpaid family workers constitute the majority of those children being constantly shouted at, insulted or beaten/physically abused at work. Although wage earners constitute 28.5 percent of children reporting some type of physical abuse, unpaid family workers constitute the great majority (71.5%) of such children, whereas they constitute only 28.2 percent of those children who reported no such physical abuse. These figures call for close monitoring of

the work environments of children who work with family members as well as children in wage work.

4.2 Schooling outcomes of working and non-working children

4.2.1 School attendance rates

As mentioned earlier, school attendance among children in Jordan is rather high. Based on children's responses, the school attendance rate among all children aged 6-17 is estimated to be around 95 percent. However, school attendance rates differ significantly between children who are in employment and those who are not. Among children aged 6-17, the school attendance rate of children not in employment is estimated to be 96.1 percent, compared to only 42.6 percent of children in employment. The gap widens further among children aged 16-17; in this age group, the school attendance rate of children not in employment is an estimated 87.4 percent, compared to only 23 percent of children in employment. These figures indicate that work and school are not compatible activities, which is unsurprising, given the long working hours of children in employment.

Table 4.6 School attendance rates of children by employment status (%)

School attendance	Children not in employment	Children in employment
Ages 6-17	96.11	42.55
Ages 6-15	97.56	61.07
Ages16-17	87.39	23.0

As discussed earlier in the report (Section 2.2.2), over half of all children who do not attend school are beyond compulsory school age (i.e. age 16-17), and about 8 percent are children aged 6. Furthermore, about one-fifth of children who do not attend school are not children who have dropped out, but children who have never attended school. Interestingly, the estimated employment rate among this group of children (2.2%) is only slightly higher than the estimated rate for all children aged 6-17 (2%), suggesting that employment is not the main reason why children never attend school. Indeed, only one-fifth of children who never attended school said they couldn't afford to, whereas the majority (about 60%) said that disability or illness prevented them from attending school.

The highest grade children attended before leaving school and the age at which children left school are shown in Tables 4.7 and 4.8, respectively. A sizeable proportion (72%) of children

who do not attend school reported dropping out before completing grade 10, i.e. before completing their compulsory schooling. Similarly, the majority of children reported dropping out before age 15, the age at which children normally complete their compulsory education. This implies that for the majority of children, schooling must have ceased to be a viable option at some point.

A whole host of factors may contribute to children dropping out of school, including disability/illness, a drop in family income, or the need to enter employment. Interestingly, about 60 percent of drop-outs stated that they stopped attending school because they did not find schooling valuable, and among children in employment, 27.4 percent mentioned the need to work or help with household tasks as a factor in dropping out of school. Despite the fact that compulsory education is free, associated costs of schooling may also impose a significant burden on low-income households and thus factor into decisions on school attendance. These include both explicit costs such as books, uniforms and other school supplies, as well as implicit costs – for example, what a child could earn if s/he works instead of attending school. Poor quality of schooling – including multi-grade teaching, crowded classes and low teacher quality – is another factor that may play a role in increasing the drop-out rate.

Table 4.7 Highest grade completed before leaving school (%)

School grade	All drop-outs	Children in employment	Children not in employment
Grade 1	2.37	2.96	0.94
Grade 2	1.51	1.46	1.63
Grade 3	2.57	2.76	2.11
Grade 4	4.26	5.23	1.87
Grade 5	6.53	6.42	6.78
Grade 6	11.36	11.81	10.27
Grade 7	13.4	11.47	18.11
Grade 8	14.75	14.59	15.13
Grade 9	15.18	14.65	16.46
Grade 10	18.54	18.11	19.59
Grade 11	8.36	9.0	6.81
Grade 12	1.17	1.53	0.3

Note: Covers children aged 6-17. Grades 11 and 12 refer to 1st and 2nd grades in vocational apprenticeship or secondary school.

Table 4.8 Distribution of school drop-outs by school-leaving age (%)			
School-leaving age	**All drop-outs**	**Children in employment**	**Children not in employment**
6	-	-	-
7	2.46	2.94	1.28
8	2.50	2.82	1.7
9	3.11	3.4	2.39
10	5.70	6.32	4.18
11	7.34	8.21	5.21
12	13.12	12.48	14.7
13	14.72	13.12	18.66
14	16.76	16.46	17.49
15	18.04	17.72	18.83
16	11.63	11.31	12.4
17	4.32	4.8	3.15

4.2.2 School-starting age

Differences were also found in the age at which children in employment and those not in employment start school. While 96.7 percent of children not in employment started basic education at age 6, only 95.8 percent of children in employment started basic education at this age (Table 4.9). Put differently, about 3 percent of children in employment delayed entering school until after age 6, compared to about 1.2 percent of children not in employment.

Table 4.9 Age children start basic education, by employment status (%)		
School starting age	**Children in employment**	**Children not in employment**
5	1.81	1.24
6	96.95	95.78
7	1.11	2.73
8	0.11	0.25
9	0.02	-

4.2.3 Days absent from school

Among children attending school, work status did not appear to significantly affect either the rates at which children missed school during the reference week or the number of school days missed. While 16.1 percent of children in employment missed some school during the reference week, 16.8 percent of children not in employment also missed some school during the reference week, with the number of absent days averaging 3 days per week for both groups.

However, with regard to the reasons why children were absent from school, differences were found between children in employment and those not in employment. While 12.1 percent of children in employment missed school because they were required to work or help in a family business or with unpaid household services, the corresponding rate among children not in employment was only 1.6 percent. However, for both groups, the main reason for being absent from school was that the reference week turned out to be a school vacation period. Disregarding such reasons as 'school vacation period', 'teacher absence' and 'bad weather conditions', which explain 73.5 percent of all absences, the main reason for missing school was illness/injury (61.4%), followed by 'other reasons' (32.2%) and 'work-related matters' (6.5%).

When the status in employment of children who missed school is examined as well, 62.1 percent of children in employment were found to be absent from school because of an illness/injury, as compared to only 28.5 of children not in employment. In comparison to children not in employment, a larger proportion of children in employment also provided 'other reasons' to explain their absences (31.7% and 53.6%, respectively), and the proportion of children not in employment (6.1%) who missed school due to work-related reasons was, naturally, lower than that of children in employment (17.9%).

4.2.4 Vocational training

Vocational training is not a common activity among children in Jordan. Only 0.6 percent of all children aged 10-17 have ever attended such skills training; however, this rate is somewhat higher among children who no longer attend school, 4.2 percent of whom have received or are currently receiving skills training. The rate of vocational training is also higher among children in employment (4.2%) than among children not in employment (0.4%). Based on these findings, it can be concluded that vocational training does not play an important role in the lives of children, even among those who are in employment.

Conclusion

The 2007 Child Labour Survey found an estimated 33,190 children in Jordan between the ages of five and 17 to be employed. This figure represents 1.9 percent of all children in Jordan ages 5-17, which is a rather low figure when compared to other developing countries of similar income levels (see Hagemann et al., 2006). CLS data shows employment to be very low among children under 12 years of age. Among children aged 12-14, the employment rate is 1.9 percent, whereas among those aged 15-17, the rate increases to 5.8 percent. Employment is extremely rare among girls of all ages; even among those aged 15-17, the employment rate does not exceed 1 percent. Consequently, boys constitute almost 90 percent of all children in employment.

Factors related to both demand and supply are likely instrumental in keeping the employment rates among children low. On the demand side, Jordan's agricultural and manufacturing sectors are small, so they do not provide the same opportunity for employing children that is commonly found in developing countries. Furthermore, household-based activities do not seem to be very widespread in Jordan, which reduces the demand for child workers as well. School accessibility and the high level of education among adults may also help to explain the low employment rates among children, whereas the particularly low rate among girls may be attributed to gender roles that limit women's activities to unpaid household services within the homestead.

Although the prevalence of employment is rather low among children, those who do work put in substantial hours. On average, children are employed for 38.6 hours per week, and among boys, this figure increases to 40.6 hours per week. Another important feature of child employment in Jordan is that the majority of employed children (62.7%) are wage earners. However, this pattern differs widely between boys and girls, with 66.6 percent of boys and 28.2 percent of girls engaged in wage work. In contrast, 66.8 percent of girls and only 28.2 percent of boys are employed as unpaid family workers.

In terms of sector of economic activity, children are employed mainly in wholesale/retail trade (36.3%), agriculture (27.3%) and manufacturing (15.8%). However, this pattern differs vastly between boys and girls. While the majority (77%) of girls in employment are found in the agriculture sector, the majority (40%) of boys in employment are found in wholesale and retail trade. In contrast, agriculture employs only about one-fifth of boys in employment, whereas trade

employs only 11.3 percent of girls. The proportion of boys in the construction sector – a sector that is considered hazardous work for children – is also sizeable, at an estimated 8.9 percent. Children's occupations tend to vary by sex, with the majority (77%) of girls employed as either skilled agricultural workers or as elementary workers in agriculture, and the majority of boys (68.8%) employed as either service/sales workers, craft and related trades workers, or agricultural and non-agricultural elementary workers. The earnings of children employed for a wage represent one-quarter of their household earnings, and about half of all children employed for a wage turn their earnings over to their parents.

School attendance is found to be very high in Jordan, with rates reaching 97.1 percent among children of compulsory school age (6-15 years) and 83.2 percent among children beyond compulsory school age (16-17 years). Two additional features distinguish Jordan from other lower middle income countries in terms of schooling, namely: 1) pre-school attendance rates among 5-year-olds are rather high (nearly 70%); and 2) not only are school attendance rates of boys and girls comparable at compulsory-school age, among older children beyond compulsory schooling, attendance rates are higher for girls than for boys.

Against these favourable outcomes, however, striking differences are observed between the schooling outcomes of children in employment and those not in employment. For instance, the school attendance rate is 88.7 percent among boys aged 16-17 who are not employed, as compared to only 23.2 percent among those who are employed. These findings indicate that in Jordan, employment and schooling are incompatible activities, which given the long work hours children spend at work, is not surprising. Nevertheless, only 0.7 percent of all children aged 6-17 are engaged solely in economic activity, compared to 62.4 percent who attend school only.

A sizeable proportion of children (about one-third) perform unpaid household services ('chores') for the members of their household, and both the intensity and nature of these activities change with the sex of the child. Girls spend an average of 3.5 hours more per week on unpaid household services than boys, and their activities involve work within the homestead, such as cooking and cleaning, whereas boys' activities mostly take place outside the homestead and involve shopping and repairs. Despite the sizeable proportion of children involved in providing unpaid household services, their hours are limited to an average of 6.2 hours per week, so that only 2 percent of all children aged 6-17 are engaged solely in performing unpaid household services.

Using the national definition of child labour, 88.1 percent of children in employment – an estimated 29,225 children – are classified as child labourers. For the most part, child labourers do not differ greatly from other working children in terms of sector of economic activity, occupation or status in employment. In fact, only about one-fifth of child labourers would be required to change occupations or industries in order not to be classified as child labourers. Rather, the main factor differentiating the majority (about 80 percent) of child labourers from other children in employment is their working conditions, including the number of hours of work per week, which are considered excessive for their age.

As multivariate analysis indicates, there are distinct characteristics that set children who are employed and/or not attending school apart from other children. For instance, children from poorer households and children with less educated parents are more likely to be employed and to be child labourers than other children. They are also more likely to drop out of school. Children of migrants are also more likely to be employed and to become child labourers, and girls (but not boys) from migrant households are also more likely to drop out of school. Finally, children from households that own livestock face a higher risk of employment and child labour, but not necessarily a higher risk of dropping out of school.

These findings indicate that programs designed to combat child labour in Jordan should target poor households. Programs that aim to raise awareness among parents with low levels of education about the negative effects of employment on children are also likely to have a positive impact, as are programs that target migrant households.

When the consequences of child employment are examined in terms of children's health outcomes, a high rate (40.8%) of children in employment were found to suffer from some sort of work-related illness or injury, with the most frequently cited problems extreme fatigue (28.8%) and superficial cuts/injuries (15.4%). The work environment of 40.6 percent of children was also found to need improvement, and 12.1 percent of children were found to be subjected to unfavourable treatment at work. Interestingly, the majority (71.5%) of children who reported physical abuse at work were found to be unpaid family workers, and since the overwhelming majority of children were interviewed in the company of an adult or another child, it is likely that incidences of abuse were under-reported. These findings highlight the need to closely monitor the

work environment of children employed as unpaid family workers, which is a more challenging task than monitoring the work environments of wage-earners.

Schooling outcomes were also found to be relatively unfavourable among children in employment. A close look reveals that children in employment start school at a later age and drop-out earlier than other children. Still, never attending school seems to be a minor problem in Jordan, originating mostly from an illness or disability rather than work. While it is not possible to conclude that the need to work leads children to either drop-out of school before completing their basic education or fail to continue on in their schooling beyond basic education, the higher risk of dropping out of school and entering employment that poor children face suggests that measures geared towards reducing school expenses and/or increasing the general well-being of poor households could help retain more children in school. Special programs at schools that target employed children could also help retain them in school and increase their awareness towards risks at work.

Very few children – less than 0.6 percent of all children aged 10-17 and only 4.2 percent of employed children that age – currently benefit from vocational training. Providing this type of instruction could be another way to reach school drop-outs and equip them with skills while at the same time increasing their awareness of the risks faced at work.

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Appendix A: Concepts and definitions

The following concepts and definitions used in the Child Labour Survey were developed according to international criteria issued by the United Nations and its specialized organizations and adjusted in line with the specific circumstances of Jordan.

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 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 has been used in this 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.

Appendix B: Methodology[7]

Since its establishment in 1949, the Department of Statistics (DoS) has been dedicated to providing accurate, up-to-date socio-economic and demographic statistics to decision makers, policymakers and all other data users. In its efforts to keep up with developments in the field of survey implementation, the DoS has continued to improve its technical capabilities to attain the level of best world practices.

The Child Labour Survey (CLS) implemented by the DoS is the first survey to provide data on the status of child labour in Jordan. The survey was carried out by the DoS, in cooperation with the International Labour Office (ILO), within the framework of a statistical information program aimed at establishing a child-labour database. Preparations for the CLS were conducted in consultation with other national and international institutions concerned with the child labour issue, including the Ministry of Labour, the Ministry of Education, UNICEF and UNESCO.

Survey Objectives

The main objectives of the CLS were to obtain detailed data on and establish links between child labour and various demographic and socio-economic variables. The survey was designed to enable a comparison of the living standards of households with children in employment to those of households in Jordan in general and to facilitate international comparisons related to statistical data on child labour.

The DoS aims to use the data obtained from the CLS to create a data base containing quantitative and qualitative information on child labour that is accessible to all institutions concerned with the phenomenon. In this way, the survey aims to support planning and policymaking, including the development, monitoring and evaluation of policies and programs aimed at the elimination of child labour.

Survey Questionnaire

The CLS questionnaire was based on a model questionnaire developed by ILO-SIMPOC, which was adapted by DoS staff to meet the specific circumstances in Jordan. In designing the

[7] This section of the report was prepared by the Jordanian Department of Statistics.

questionnaire, special care was taken to facilitate on-line data entry and verification of survey data. The questionnaire was then translated into Arabic, piloted and revised based on this experience.

The questionnaire consists of a cover page that identifies the household, followed by three main parts: 1) an Adult Questionnaire that collects information on all household members; 2) a Household Characteristics Questionnaire that collects information related to housing characteristics and the socio-economic status of the household; and 3) a Child Questionnaire that collects information on all children in the household aged 5-17.

Survey Design

Sample Design

The CLS used a two-stage stratified cluster sampling design. The 2004 Population and Housing Census was used as the sampling frame. The frame excludes the largely nomadic population living in remote areas as well as the institutional population (hotels, hospitals, work camps, prisons, etc.).

Sample Size

The sample size was limited due to budget constraints. A sample size of approximately 12,000 households was determined as the minimum sample size necessary to provide estimates for urban/rural populations and for the Amman Governorate. Based on an anticipated non-response rate of 10 percent, this required a sample size of at least 13,500 households. The selection of households in proportion to cluster size ultimately resulted in a total sample size of 15,176 households.

Sample Selection and Allocation

Selection was performed in two stages. In the first stage, PSUs were selected using probability-proportional-to-PSU size. A listing study was then conducted to update the list of households in the selected PSUs. In the second stage, households were selected from each PSU using probability-inversely-proportional-to-PSU size.

Prior to the selection of PSUs, nested stratification was applied so that within each stratum, PSUs were sorted by administrative hierarchy and socio-economic indicators. The following information was used to identify areas in which working children are concentrated:

1. Number of working children aged 15-17 (2004 Population and Housing Census),
2. Proportion of population aged 5-17 (2004 Population and Housing Census),
3. Enrolment rate among children aged 5-17 (2004 Population and Housing Census),
4. Drop-out rate (2006 Ministry of Education Data),
5. Poverty rate (2002 Expenditure and Income Survey).

Based on this information, the frame was divided into 14 strata, as follows:

1. Amman, urban, high concentration of working children,
2. Amman, urban, medium concentration of working children,
3. Amman, urban, low concentration of working children,
4. Amman, urban, Refugees Camps,
5. Amman, rural, high concentration of working children,
6. Amman, rural, medium concentration of working children,
7. Amman, rural, low concentration of working children,
8. Remaining areas, urban, high concentration of working children,
9. Remaining areas, urban, medium concentration of working children,
10. Remaining areas, urban, low concentration of working children,
11. Remaining areas, urban, Refugees Camps,
12. Remaining areas, rural, high concentration of working children,
13. Remaining areas, rural, medium concentration of working children,
14. Remaining areas, rural, low concentration of working children,

Table B.1 shows the distribution of PSUs and Households across the strata. The allocation of sample households aimed to ensure an over-sampling by a pre-specified factor of urban areas in comparison to rural areas. Strata with higher concentrations of working children were also over-sampled.

Table B.1 Distribution of PSUs and Households across Strata							
Strata	**Total number of PSU**	**Selected number of PSU**	**Selected number of HH**	**No. of ineligible units***	**No. of non-responses for HH**	**No. of persons age 5+ interviewed**	**Sampling rate (f)**
Amman, urban, high CL	3383	290	2798	268	137	9864	0.01
Amman, urban, medium CL	1199	241	2147	83	28	9345	0.02
Amman, urban, low CL	419	112	1012	45	4	4717	0.03
Amman, urban, Camps CL	114	33	284	10	2	1230	0.03
Amman, rural, high CL	95	10	82	9	1	351	0.02
Amman, rural, medium CL	123	10	87	3	0	385	0.01
Amman, rural, low CL	176	24	214	8	1	1059	0.02
Remaining, urban, high CL	2094	127	1107	67	33	4330	0.01
Remaining, urban, medium CL	2177	285	2468	109	21	10778	0.02
Remaining, urban, low CL	1801	314	2855	115	33	13842	0.02
Remaining, urban, Camps CL	338	82	700	19	12	3277	0.02
Remaining, rural, high CL	622	18	151	7	1	642	0.004
Remaining, rural, medium CL	726	45	386	17	0	1838	0.009
Remaining, rural, low CL	1153	101	885	38	14	4384	0.01
Total	**14,420**	**1,692**	**15,176**	**798**	**287**	**66,042**	**0.01**

* Includes address for construction sites, business establishments, etc.

Survey Implementation

Preparation/Training

The supervisory and executive levels of the survey staff were selected according to their past experience in censuses and surveys, familiarity with geographic areas, and educational qualifications. It is noteworthy that all survey staff were women with university degrees. The survey administration then designed a training plan for the various levels of survey staff before fielding the survey. A 10-day training program was held in the survey headquarters. The program focused on survey objectives, data collection procedures, confidentiality of data and how to deal

with households and overcome difficulties. The program also included a detailed explanation of the questionnaire inputs, concepts and instructions related to data collection and field editing. The staff was trained on supervisory tasks, work organization, required specific tasks and assignments, sampling method and geographical distribution of work. The numbering system used for the household national frame and how to locate sample households were also explained. Additional classroom and field practices provided instruction in how to fill in the questionnaire.

An additional training program was designed to instruct office processors (editors and coders) on editing rules and data consistency checks. Coders were also trained on coding rules and procedures. Also, computer subject-matter specialists trained keyers on data entry and verification and selected office-processing staff on how to detect and correct error lists.

Fieldwork

Fieldwork was initiated on 2 December 2007 and completed on 6 January 2008, as scheduled. Fieldwork was organized hierarchically into teams of interviewers, supervisors and inspectors, and field procedures designed so as to ensure that high-quality data was obtained.

Interviewers were assigned tasks by supervisors, who were provided with maps and sketches to help them familiarize themselves with their work areas. After entering identifying information from the survey frame into the questionnaire forms, supervisors were responsible for assigning interviewers daily interviewing tasks so as to maximize team productivity. Supervisors were also expected to continuously monitor their assigned areas to oversee work progress; check questionnaires, attend interviews and solve any problems that emerge in the field; provide inspectors with completed daily and weekly progress report forms; and deliver completed questionnaire forms to the inspectors.

Each field inspector was responsible for administering all field operations and supervisors in a specific area. This involved assigning work areas and providing supplies, including questionnaires, to supervisors; monitoring the progress of fieldwork in accordance with the work plan; preparing daily progress reports; checking a sample of completed questionnaires for data quality; forwarding completed questionnaires and other survey documents to the central survey office; and acting as a liaison with the central survey administration to report on the progress and problems encountered in the field.

In addition to the above procedures, survey administrative staff paid frequent visits to field staff in various governorates to oversee their performance and progress and assist in resolving any difficulties.

Data Processing

Data processing activities overlapped with fieldwork, beginning on 20 January 2008 and concluding on 10 March 2008.

In order to facilitate processing, questionnaires were ordered, labelled and stored in a special archive and were tracked throughout the course of data processing activities. After field-editing, completed questionnaires were batched and sent to the central administrative office for further editing, including completeness and consistency checking. Coding and revisions were performed by a special team of data processors under the direct supervision of the survey administration staff in order to minimize errors prior to the start of electronic data processing activities.

In order to maximize efficiency, processing teams were continuously regrouped to improve the flow of questionnaires between office and electronic data processing stages, and a liaison officer was assigned to record the flow of edited and coded questionnaires between divisions. Data keyers received training on data-entry rules and procedures using pre-designed and installed software programs that enabled prompt mechanical editing of incomplete/invalid data. Consistency checks were also performed routinely throughout the data entry process. After obtaining an error-free data set, cross-tables were prepared and compared with internal and external data sources. Once data verification was completed, findings were tabulated using pre-prepared dummy tables.

Response Rates

All sample households were visited, with three attempts made to contact each household. In total, 14,091 households (92.9%) were interviewed successfully. In some cases, sample households were not interviewed because they were found to be ineligible. (Table B.2). Discounting those dwellings that were vacant or could not be found, the survey had a response rate of 98.0 percent.

Table B.2. Distribution of Households by Stratum and Interview Status									
Stratum	**HH interviewed**	**Not Eligible**	**Post-poned**	**Dwelling not Found**	**Closed**	**Refused**	**Vacant**	**Other**	**Total Households**
Amman	**6025**	**0**	**1**	**3**	**21**	**134**	**423**	**17**	**6624**
Amman-Urban	**5664**	**0**	**1**	**3**	**21**	**134**	**403**	**15**	**6241**
111	2393		1	2	13	110	266	13	2798
112	2036				8	20	83		2147
113	963			1		2	44	2	1012
114	272					2	10		284
Amman-Rural	**361**	**0**	**0**	**0**	**0**	**0**	**20**	**2**	**383**
121	72						9	1	82
122	84						3		87
123	205						8	1	214
Other Gov.	**8066**	**5**	**1**	**9**	**44**	**42**	**363**	**22**	**8552**
Other Gov. – Urban	**6721**	**4**	**0**	**7**	**38**	**37**	**303**	**20**	**7130**
211	1007	1		1	14	15	66	3	1107
212	2338	2		1	7	8	108	4	2468
213	2707	1		5	13	10	110	9	2855
214	669				4	4	19	4	700
Other Gov. – Rural	**1345**	**1**	**1**	**2**	**6**	**5**	**60**	**2**	**1422**
221	143					1	7		151
222	369			1			16		386
223	833	1	1	1	6	4	37	2	885
Total	**14091**	**5**	**2**	**12**	**65**	**176**	**786**	**39**	**15176**

Data Weighting

Design weights, non-response rates and calibration were used to calculate the final weights. Design weights were calculated inversely proportional to the overall selection probability according to the following formula:

$$w_i = \left(\sum n_i \Big/ \sum n_i / p_i \right) * 1 \Big/ p_i$$

To reduce the effects of different non-response rates in each strata, non-response weights were calculated at the household level for each strata inversely proportional to the response rate Rj within the strata using the following formula:

$$R_j = \frac{No...of...completed...HH...in..strata.j}{No..of..selected...HH..in...strata.j}$$

In order to ensure the representativeness of the estimates, the results were calibrated using the 2007 Population projections. In addition, the overall inflation factor was calculated by dividing the projected population by the weighted sample population.