تعليم وعمل الأطفال في الأراضي الفلسطينية

Child Labor and Schooling in The Palestinian Territory

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June, 2005

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Preface

The objective of this thesis is to study the determinants that make Palestinian children decide whether to choose schooling, working or both. In addition, this paper aims at studying the impact of the Israeli aggression (since October 2000) on children as well as the children's decision to take one or more of the above mentioned options. In this thesis two approaches are used to estimate the determinants of child labor and schooling, the first one is the sequential-response model method, and the second is probit model. In each case, the probit method to assess the model for each decision is used. The Quarterly Labor Force Household Survey database of the Palestinian Central Bureau of Statistics (for second and third quarters of 2000 and 2001) was used for the first model and the Child Labor Survey 2004 was used for the second model.

Results show a negative effect in the children's growth because of the Israeli repression against the Palestinian people and the intensity in the risks that the children take in their attempt to help their families earn their living, especially after the increase in the poverty and unemployment lately. The increase in the probability for the boys to go to work and for the girls to leave school are among the indications for the abovementioned results.

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Chapter One
Introduction

The beginning of the second Intifada (October 2000) marked a new era of the Israeli military occupation. Strict restrictions on the movement of Palestinians within the Palestinian Territory (PT) and between the PT and Israel, coupled with complete closures, curfews and military incursions increased unemployment drastically. Almost 316 thousands Palestinians became unemployed in the last quarter of 2000 as compared to 170 thousands in the third quarter of the same year (PCBS, 2001). Most people who were working in Israel became jobless and faced the bitter reality (loss of work and education). This situation, which caused children to reconsider their view of education and training, motivated us to examine the direct and indirect impacts of the Israeli measures on the determinants of child labor and schooling.

This thesis will also try to answer the empirical question of the effects of the number of siblings, sibling activities and sibling age structure on child schooling progress and child non-school activity, and the linkage between schooling and labor.

The absolute number of Palestinian working children is low if compared with other developing countries. But the problems are the work conditions for around 22 thousands classified as child labor (1.7% of children aged 5-17 years).

In this thesis I use more than one definition for child labor, and these definitions mainly depend on International Labor Organization (ILO Standards). The main concept for working children cover all children who worked at least one hour in paid work last week of survey or worked 15 hours and over as an unpaid family worker. This is the common definition that I used which was used in labor force survey and child labor survey data that was used for the study. Chapter four and five explain deeply the exact definitions that I used.

"The adoption of convention 182 (against the "worst forms" of child labor) by the International Labor Conference in June 1999 is commended for the increased attention it has directed to child labor worldwide. This new international human rights instrument reaffirmed previous International Labor Organization (ILO) provisions on minimum age for admission to labor market as well as Article 32 of the Convention on the Rights of the Child (CRC)[1], which stresses the need for immediate child protection against economic exploitation" (MOPIC & UNICEF, 2000).

Nevertheless, the proper growth and development of quarter billion children in developing countries are still at stake. Available ILO figures point to over 120 million children (aged 5-14 years) employed on a full time basis and additional 130 million employed on a part time basis (Ashagrie, 1993).

Graveness of child labor is contingent upon the impact it leaves on child development. Adult oriented jobs might be extremely harmful if performed by

[1] **CRC-Article 32**: **(1)** States Parties recognize the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development. **(2)** States Parties shall take legislative, administrative, social and educational measures to ensure the implementation of the present article. To this end, and having regard to the relevant provisions of other international instruments, states Parties shall in particular: (a) Provide for a minimum age or minimum ages for admission to employment; (b) Provide for appropriate regulation of the hours and conditions of employment; (c) Provide for appropriate penalties or other sanctions to ensure the effective enforcement of the present article. (MOPIC & UNICEF, 2000)

children. As a matter of fact, many aspects of child development are adversely affected when child labor involves exploitation including: Physical development (e.g. general health, biological harmony, strength, sight, hearing, etc) ; cognitive development (the ability to read, write and calculate, acquire knowledge, etc); emotional development (self-esteem, family ties, feeling of love, recognition by others, etc); and social and moral development (feeling of belonging to a group, ability to cooperate, ability to differentiate between what is right and what is wrong, etc) (Kafri, 1999). Thus, it is essential to minimize the drastically adverse effects child labor leaves on human capital development and on future growth of developing countries.

The Palestinian Territory witnesses an increasing public concern on child labor as a result of macroeconomic and socio-economic changes. More visible forms of child work in the streets and in more formal labor markets are drawing attention to exploitative and harmful aspects (MOPIC & UNICEF, 2000). In particular, the participation rate for children 10-17 years reached 7.0 percent in 2000 and declined to 3.2 percent in the third quarter of 2001. Also, the participation rate for persons aged 15 years and over (economically active population) decreased from 43.5 percent in the third quarter 2000 to 38.3 percent in the third quarter 2001. This decline shows the magnitude of the crisis in the Palestinian labor market after the September 2000, the beginning of Al-Aqsa Intifada.

The PT has been facing exceptional peculiarities. Upon its occupation of the PT in 1967, Israel opened its labor market to the Palestinian labor force with a total disregard to academic qualifications. Palestinian unskilled workers employed in Israel received higher compensation that exceeded those of skilled laborers in the local market[2]. Therefore, the returns to schooling became very much less

[2] The average daily wage (ADW) for Palestinians working in Israel and Israeli Settlements was USD 26 as compared to USD 15 for those worked in PT in the 3rd quarter of 2000 (before the last crisis). In addition, the ADW for those working in PT and

rewarding relative to working in Israel (Daoud, 2005). This situation influenced the Palestinian child views of future career path: schooling versus child labor, especially work in Israel.

The outline of this thesis covers six chapters. The first one is introduction. The second one is a review of related literature. The next chapter includes descriptive on child labor and school participation trends in PT based on data available on children aged 10-17 years[3], this chapter will describe the child labor profile. Chapter four presents the econometric model used in this thesis (sequential probit model), it analyzes the probability of choice and trade off between child schooling and labor in PT. The impact of Israeli measure on Palestinian child labor and schooling will be investigated. Chapter five presents the econometric probit specification model to analyze the effects of number of siblings, sibling activities and sibling age structure on child schooling progress and child non-school activity. The last chapter concludes with some policy recommendations on how to minimize child labor and school drop out rates that are essential for the Palestinian children's well being.

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has 13 years and over of schooling is 19 US$ (PCBS, 2001 (d)). For more details see Daoud (2005).

[3] To analyze the data through two periods, I used the available data on children aged 10-17 years. Also, there are some children aged 5-9 thet are working in the PT (the percentage reached 0.8 percent of all children in the same age).

Chapter Two

Literature Review

In this chapter I summarize the work of other researchers on child labor. I will begin with the theoretical models, and then the econometric specification, and after that I will present the determinants of child labor as discussed by some researchers.

2.1 Theoretical models explaining child labor

Among the various studies which tackled child labour are the World Bank's studies (Dar et al, 2002), and (Cigno, Rosati and Tzannatos, 2002).

Of particular importance is the household bargaining model. The theory behind either branch of the bargaining models specifies the labor supply for children as a result of bargaining. In the intra-household bargaining model, children's labor supply is a family matter and children are involved in the decision making (owing to total family income).

The extra-household bargaining model, on the other hand, excludes children from the bargaining process, leaving it to employers and parents. Dar et al (2002) provide a more detailed account of such models.

Other models explain child labor such as "the altruist models" (Dar et al, 2002) of child labor, where the parents or family send their children to labor market if their income become low "luxury axiom", or child labor and adult labor are substitutes from a firm's point of view. (Dar et al, 2002).

Basu and Van (1998) show the relationship between child labor and adult labor from derived two axioms referred to as the "Luxury" and "Substitutions" axioms. "These axioms are defined as follows:

- Luxury Axiom: A family sends the children to the labor market only if the family's income from non-child labor sources drops below the subsistence level.
- Substitution Axiom: Child labor and adult labor are substitutes from a firm's point of view[4]." (Dar et al, 2002)

Other models show the relationship between child labor and social norms. These models show the relationship at a macro-level, but Basu and Van show the relationship at a micro-level. "A big caveat in the literature has been the treatment of dynamics. The dynamic consequences of child labor are likely to be significant since an increase in child labor frequently causes a decline in the acquisition of human capital" (Dar et al, 2002).

2.2 Econometrics specification

Dar et al (2002) present an excellent review to summarize the econometric specification of models of child labor. Several approaches were developed to estimate the determinants of children's participation in labor market and schooling. One of these approaches is the probit and logit equations of child labor and school attendance. Another alternative suggests using sequential probit approach, and a third approach called a bivariate porbit model. Each of these models tried to develop quantitative and qualitative methodologies to define the factors or determinants of child labor and schooling.

[4] "More specifically, child and adult labor are perfect substitutes in terms of production subject to an adult-equivalent scaling. This implies that children can do whatever adults do, but that children are less productive than adults. This assumption is in contrast to the "nimble fingers" belief, that children have comparative advantage in some production activities, e.g. carpet-weaving. However, there is little empirical evidence to support the "nimble fingers" argument." (Dar et al, 2002)

All of the above approaches based on extracting attributes that refer to the child and family behavior or decision to attend school or seep to labor market. Each model has its strength and shortcomings, but it could contribute to establish better understanding of the child labor phenomenon.

2.3 Determinants of child labor

The empirical literature on the determinants of child labor highlights the importance of school attendance, despite the belief that it is not the opposite of child labor, (Grootaert, 1998). Nevertheless, much of this literature views schooling as the most important means of drawing children away from the labor market (Siddiqi and Patrinos, 1995). Other studies show that child labor is not detrimental to schooling (Patrinos and Psacharopoulos, 1997). The question remains whether working actually makes it possible for the children to go to school.

2.4 Characteristics of the child

The descriptive presentation, as well as virtually all empirical work on child labor, has indicated that the age and gender of the child are important determinants of the probability of work. The magnitude and direction of these effects are however country-specific, and determined by cultural factors, labor market opportunities, and wage patterns (Dar et al, 2002).

“The time allocation of children for various activities differs by age. One would expect older children to be more likely to engage in labor activities (especially waged work) as the returns to participating in the labor market are likely to be higher”. On other hand, “school attendance is expected to

decline with age, with older children more likely to enter labor market. These results are borne out by the empirical evidence"(Dar et al, 2002).

2.5 Parents' characteristics[5]

Most of the literature shows the education and employment status of the parents as an important influence on the child labor and schooling decision **(**ILO, 1992; Grootaert, 1998; Canagarajah and Coulombe, 1997; Kafri, 1999). "The usual assumption is that the father's education and employment affects boys the most, and mother's education and employment affects girls the most" (Grootaert, 1998). Likewise, Parents labor force characteristics are important as stressed by most empirical studies. Grootaert (1998) says that "if the parents have no or irregular employment, it creates the need for additional income sources to be provided by children". It is important to examine their effects on the Palestinian children especially in the last crisis. The closures in the PT make the labor market in abiding vibration case, that means, the main labor market indicators change in short term.

There has been substantial debate over whether children and parents (particularly mothers) are substitutes or complementary in economic activity, especially through the current crises in the Palestinian Territory. Proponents of the complementary argument argue that when mothers participate in the labor force, children take over household work from mothers, i.e., mothers and children are complementary in economic activity (domestic work), in particular when infants and pre-school-aged children are present in the household. On the other hand, proponents of the substitution argument (e.g. Basu and Van, 1998) say that "when mothers

[5] We assume the head of the household is one of the parents

are more available for work, children are removed from the labor market". This results in a decrease in the labor force participation rate of children and an increase school attendance. Thus, parents (or mothers) and children are substitutes in economic activities (Dar et al, 2002).

There are conflicting views on the aspects of the impact of mothers' work on children's school attendance. Whereas some literature argued that mothers' work affects children's school attendance positively, that is when the mother participates in labor market, the income of the household will increase and then, the children will have more chance to attend school. On the other side, others argue that when the mother works, the children will have bad character and then will dropout from school (Dar et al, 2002).

On the other hand, the children's activities are affected by educational attainment of parents. Some researchers discussed the impact of educational attainment of parents on the participation of children in labor market in the social aspects, and in some other times they discussed it from economic aspects, and in both sides, they argue that the parents' education have a positive impact on child labor. Whereas, the income will increase, if the problem discussed from economic aspects, and the educated parents have good idea that the education is important for their children (Dar et al, 2002).

It is well-documented that parents' educational attainments are strongly associated with children's school attendance (Dar et al, 2002). Canagarajah and Coulombe (1998) argued that "higher schooling levels of parents have a positive effect on school attendance of children, especially true for mothers' education".

2.6 Household characteristics

The literature has clearly established that several demographic and economic features of the household as a unit affect the supply of child labor (Grootaert, 1998; Kafri, 1999; Ray, 1999; Ravallion and Wodon, 1999; Wahba, 1999). Grootaert (1998) summarized the influence of household characteristics on child labor from two viewpoints, the first is demographic, which includes the household size and composition, the number of children by gender and age, "the more children there are in the household, the more likely it is that one of them will work" and "a larger household size decreases income per capita and increases the dependency ratio, and both factors increase the likelihood that a child will need to generate income (in cash or in kind) to maintain the household's level of living". Also this side includes the age of the head of household, which explains the life cycle, and finally, the gender of the head of household. Patrinos and Psacharopoulos (1997) show that family size and their activities are important.

The variables that capture the household size and the number of rooms are entered, the density of the household, which combines them, describes this variable and both indirectly affect the schooling and child labor. One of them was described above, but the second one, showing the welfare of the household.

The second viewpoint is economic in nature. It includes households ownership of income generating assets (a farm or other household enterprises). As these indicators can not be derived from available data, impacts of households enterprises were obtained from other variables like mother employment status and community type (rural) and if there are at least one family member working as a self-employed.

"It seems obvious that household welfare and child labor should be closely correlated. Macro evidence shows that the incidence of child labor and children as a proportion of the total labor force decline with per capita GDP. On a micro

level, this suggests that if a household is too poor to survive without children contributing to the economic activities of the household, children will be induced to engage in either market or homework, which could lead to harmful effects on long-term human capital accumulation and the potential perpetuation of poverty across generations" (Dar et al, 2002).

For the special case of the PT, an additional variable on the number of adult unemployed in the household was added. This indicator is very important because it describes the economic fluctuations situation and because of its effect on the child labor and schooling.

Furthermore, people from historic Palestine (occupied in 1948) who were displaced and live in refugee camps in the PT have a different service from United Nations Relief and Work Agency for Palestinian Refugees (UNRWA). They go to UNRWA schools and pay symbolic fees due to their deteriorating living conditions. This category of the Palestinian people should receive exceptional attention to cope up with the negative impacts of these conditions on child labor and schooling.

Chapter Three
Trends and Statistics

3.1 Children characteristics:

About 1.98 million Palestinian children less than 18 years in the PT (in mid February 2004) were born under a foreign illegal military occupation that has been denying them basic and natural rights, including right to proper education. Children (5-17 years) constitute 34.9 percent of the total population, i.e. 1.31 million of whom 645 thousands are female. More than half of these children live in urban communities. One fifth lives in crowded refugee camps (PCBS, 2004).

The outbreak of the Palestinian Intifada contesting Israeli foot dragging with the peace process on September 28th 2000 has inflicted a wide-scale calamity upon the Palestinian people in the PT, but surprisingly induced as significant reduction in schools drop out rates among Palestinian children. This rate fell from 10.9 percent in the third quarter of 2000 to 8.6 percent in the third quarter of 2001 among children aged 10-17 years. Likewise, the percentage of economically active children (employed and unemployed) dropped from 7.0 percent to 3.2 percent in the same period. This regression is largely attributed to the collapse of a considerable number of businesses and workshops that used to absorb child labor. This relation emphasizes the fact that much of literature views schooling as the most important means of drawing children away from the labor market (Grootaert, 1998, p2).

More than 60 percent of Palestinian households fell below poverty during the crisis relative to 21 percent before the crisis (PCBS, 2002 (a)).The literature on the relationship between poverty and child labor points that child labor and schooling are inversely related and that when child labor decreases the number of the poor families sharply increases. This explains the special situation in the PT.

The increase in the number of poor families is a result of an Israeli policy which intentionally aggravates the situation in the PT through the separation of towns and cities and the closure of passages with the outside world. In addition to the curfews imposed on the population, which resulted in a sever economic crisis, there was a sharp increase in the number of poor families. Unemployment also tripled after the start of the crisis. All of the above mentioned reasons prevented children from searching for the few opportunities that exist.

Most studies on Palestinian child labor are descriptive in nature, which is not suitable to utilize the range of policy issues that can be achieved using multiple regression and limited dependent variable models. The aim of this paper is to carry out an analytical survey that attempts to influence policy and prevailing realities.

Available literature on child labor points to several critical supply and demand factors. The analysis below focuses on supply factors at the household level, that is those characteristics of the child and the household which can exercise an influence over the household's decision to allocate children's time away from schooling and towards work (Grootaert, 1998). This section also includes the impact of Israeli measures on the Palestinian Territory. The demand factor from the number of unemployed persons in the household helps to understand the capacity of the Palestinian labor market, especially after the last closure. This indicator can be measured by using the number of adult unemployment in every household and the wages for the head of household and comparing between the two periods (before and through the closure).

3.2 The characteristics of the employed children[6]

In this section, only the children who worked for at least one hour as self employed or waged employees, or unpaid family members for at least 15 hours during the reference week are discussed. The focus is given to the prominent characteristics of employed children and the changes that took place between the third quarter of the year 2000 and 2001 in order to compare the situation in the period that preceded the crisis in the PT and that during the crisis, taking in consideration the summer holiday.

The phenomenon of child labor basically spread through male children who comprised 94.1 percent of the total child labor between 10-17 years of age in the third quarter of 2001, rising from 92.1 percent on the eve of the crisis (third quarter 2000). Most of the children employed fall within 15-17 years of age. This constitutes 81.3 percent of total employed children of the same age group. The children who were mainly and positively affected by the crisis were those who belonged to the young age categories. The percentage of the employed children who belonged to the age category of 15-17 years rose from 70.5 percent to 81.3 percent in the period between the third quarter of the year 2000 and 2001.

The percentage of the children in the urban and rural areas is about the same (40.6 percent and 46.5 percent respectively), whereas the percentage of the employed children in the refugee camps was 12.8 percent in the third quarter of 2001. In comparison with the third quarter of 2000, it could be noticed that a drop in the percentage of the employed children in the urban areas took place at the expense of other areas.

During school time, (the second quarter of 2000), the children who were studying and working at the same time, accounted for 28.3 percent of employed children. This percentage rose during summer holiday (third quarter of 2000) to reach 44.7

[6] The data source of the indicators are from Labour Force Surveys that PCBS has conducted

percent because the free time that the children have in the holiday. After the beginning of the crisis in the PT, this percentage returned to the average, and continued to be around that level through out spring and the summer holiday during which the Palestinian children were deprived of their right to seek happiness and enjoyment.

Israel and the Israeli settlements are among the most dangerous places for the Palestinian children to work in because he/she may gain bad habits and manners. 16.7 percent of the employed children worked in such places in the third quarter of 2000. This percentage dropped after the Israeli closure to become 6.7 percent. Lately, it rose again to become 10.2 percent during the third quarter of 2001. The children who continued their work in Israel during the Israeli invasion to the PT were exposed to high risks during their attempts to infiltrate to their work places in Israel or the settlements. This situation shows the bad need of these children to work even if it may cost their lives. There are many incidents in which Palestinian children were killed[7]. Despite the drop in the percentage of the employed children during the Israeli invasion, the previous indicator shows how difficult was the situation in which they found themselves in. This situation was bad enough to force the children to risk their lives to earn a living.

Working in some sectors like service, selling and farming rose sharply after the invasion at the expense of other sectors like professions and handcrafts. This indicates that children had maintained their work with their families in both the agricultural and commercial sectors.

One of the reasons for the deep concern felt is the long working hours for the children. Children some times work as long as 40 hours per week for 11-12 U.S. Dollars per day while adults receive 16-18 U.S. Dollars.

[7] See www.pcbs.gov.ps

It has been noticed that the number of the employed children dropped. This drop gives a false positive indication. The facts show that employed children work under dangerous environment in jobs that negatively affect all aspects of their development. These children who left work, did not do it willfully but because of the closure imposed on the territories, which resulted in the closure of the enterprises where these children were employed.

3.3 The characteristics of the employed children's households

The size of household whose children work is usually large (9.1 persons) in comparison to the average size of the Palestinian household (6.9 persons). These figures conform to the literature on the subject (see Table 4). The average age of the father in a family for which a working child is found is 47 years, while the general average is 32 years. The average years of study of employed children is not more than 7.2 years during the survey period, while the general average is about 8 years. It is worth it to say that no radical change in the abovementioned figures has taken place before and during the crisis with one slight exception, that the average years of schooling for the fathers had risen from 7.1 years in the third quarter 2000 to 7.6 years for the same period 2001.

The children who belong to the low-income families are badly affected. This shows the strong relation between the damage that the Palestinians suffered during the Israeli invasion and its effect on the Palestinian children. The average wage of the household head started to drop from 18.3 U.S. Dollar at the beginning of the crisis to 14.5 U.S. Dollar in the third quarter 2001. On the other hand, the results show the number of employed children has shrunk because of the tight closure of the territories. But this situation forced the children to risk their lives in search for work because of the pressing need of their families. Therefore, some of the children had to continue working in Israel despite the risks.

3.4 Child labor dynamics

In this section the nature of dynamics that children 10-17 years have experienced between summer 2000 and 2001 is discussed (18 months). No change in the status for 92.5 percent of the children between the third quarter of 2000 and 2001 whether the child was attending school, working, working or studying, housekeeping, or doing none of the above mentioned for being unable, disable, or idle (see Table 6). 2.4 percent of the children left schools while 3.1 percent went back to schools. Moving to or from the idle status remained about the same (2.0 percent). Overall, the economic and educational situation of 7.5 percent of the children changed during the period before and during the invasion (see Table 6).

3.5 The impact of Israeli measures on children

The exceptional situation in the PT leads to counter intuitive outcomes. The literature indicates the direct relation between poverty, child labor, and schooling (Canagarajah and Coulombe, 1997; Grootaert, 1998); labor and schooling (Ray, 1999). Comparison of the figures during the period that precedes the crisis with those during it shows the opposite of conventional theory. The number of the poor families swollen, the number of children who joined schools increased, while the number of employed children decreased. This information does not reveal an improvement in the situation of child labor in the PT during Israeli actions against the Palestinians since October 2000. To the contrary, the situation had deteriorated. The lack of job opportunities for both adults and children proves this conclusion.

According to the child labor concepts, there is a category of these children whose work dose not violate children rights as long as the aim of child labor is to save his family. The results of child labor survey in the PT in the last quarter of 1998 indicated that more than half of the working children do work to increase their family income. Therefore the Israeli measures hurt one of the resources of the

family income. More than half of the families are in a bad need for their children's work despite the dangers.

One of the most important reasons for higher school drop out rates is the students' self-ability to learn as it has been indicated by child labor survey (PCBS, 2004) conducted in the last quarter of 1998. This survey showed that 72 percent of male children left schools either because of their failure or the hatred to school. Causes of drop out among female pupils/students include: marriage (22 percent), lack of interest in education, or the families' decision (20 percent for each), in addition to failure (17 percent) and other reasons (21 percent). These results dismiss any role for the economic factor in school drop out. They also indicate that the education sector is supported by the Palestinian National Authority (PNA), bearing in mind that teaching is free for refugee camps population and for those who have a refugee card issued by the UNRWA for at least the first 9 years. This information explains the impact of the Israeli measures against the Palestinian people, and indicates that the relationship between poverty and schooling is not significant since poor families could send their children to schools nearly for free. It also shows that the high percentage of the children who join schools during the crisis period is attributed to lack of jobs for both adults and children. Certainly, the motive was not due to a rise in income especially after the rise in the percentage of the poor.

Nutrition is another indicator for the impact of the Israeli measures against the Palestinian children. It is expected that the closure of the PT will produce a generation of children who suffer unhealthy growth. Recent results indicate that about 46 percent of children aged 6-59 months (252 thausands) are suffering from chronic malnutrition. Compared with available statistics for the period of summer 2000, the results show an increase of 23 percent in the number of children suffering from moderate stunting (height for age), an increase of 36 percent in the number of children suffering from moderate underweight (low weight for age), and an increase of 50 percent in the number of children suffering from moderate

wasting (low weight for height). Also the results show that about half of the children aged 6-59 months are suffering from anemia (below the mean of hemoglobin level), 44 percent in the West Bank compared to 55 percent in Gaza Strip (PCBS, 2002 (b)).

This happened because about 64 percent of the Palestinian families had no access to food supplies due to siege (85 percent of the families), loss of family income (56 percent of the families) and curfews (31 percent of the families).

These indicators help us understand the dynamics of life in the PT. The results are not in harmony with expectations. While they are worse than expectations, especially the question of child labor and its effect in lowering the poverty size in the PT, there are some studies that discuss the benefit that some families get form their child labor despite the contradiction with child rights regardless to the kind of work. Therefore, we should take into account a mechanism that balances between the disadvantages of child labor and its negative results on children and the problem of need and poverty.

Chapter Four
Impact of Israeli Measures

4.1 Introduction

This chapter presents determinants of child participation in labor market and enrollment in education. Under the deteriorated situation in the Palestinian Territory due to the Israeli measures, this situation has an impact on trends of child or parents decision to join work or education or both.

All measures and concepts that prevailed before Al-Aqsa Intifada have changed, child labor decreased against high unemployment rate. Enrollment rate increased despite the increase in percentages of households below poverty line. Such contradictions needs to be discussed and explained. Policy makers and researchers expectation regarding child labor were that the Intifada would increase it ; while survey results showed the opposite. This chapter aims at studying child labor determinants during the Intifada and explain its changes. In addition, it aims to determine the benefits and costs occurred regarding child labor and education to enable policy makers to adjust policy measures previously taken to limit child labor. Such laws are probably not applicable during such imposed Israeli measures.

The analysis enables all concerned parties to understand patterns of child labor during and before the Intifada, which will give the chance to understand occurring changes and determinants of child labor and education. Comparisons of results before and during Intifada will help to define determinants of direct and indirect impact on different child characteristics (socio-economic).

This kind of analysis will provide policy makers with needed data required to determine vulnerable groups and areas more affected by Israeli measure.

A multiple regression Probit model is used to identify the factors that affect child labor. The model is applied to two different time periods before and during the Intifada to assess the impact of closures on child labor.

4.2 Data

The main data source of this model is the Palestinian Labor Force Survey (PLFS)[8], a quarterly survey that has been conducted by the Palestinian Central Bureau of Statistics (PCBS) since October 1995. The PCBS has been compiling data (via PLFS) on persons aged 10 years and over instead of 15 years and over since 1999. The sample size of PLFS for one round was 7,559 households, about 6,800 households of which were completed. About 3,500 of those completed included at least one child aged 10-17 years, (about 9,000 children in each round). This paper made use of five PLFS's rounds covering the period from the second quarter of 2000 (prior to the outbreak of Al-Aqsa Intifada[9]) to the third quarter of 2001. The findings of these rounds made it possbile to undertake a thorough comparative analysis of a number of selected variables.

As for the econometrics analysis reason, four Labor Force Survey rounds were merged together to generate two new dependent variables, one variable is to compare pre and during Intifada periods. The second variable aims to compare the period of school attendance with that of the summer holiday. (see the list of variables in Table 1, the list shows you how the Intifada period multiplied with some variables as a dummy variables).

In this chapter, the term "employed child" refers to every child (aged 10-17 years) who worked and was remunerated for at least one hour during the reference week,

[8] For more information about PLFS, please visit : http//www.pcbs.gov.ps/inside/selcts.htm

[9] Al Aqsa Intifada is the Palestinian revolt against the Israeli occupation which started on 28th September, 2000.

or who was working as an unpaid family member for at least 15 hours during the reference week. The definition of the reference period changes when we show the figures from the Child Labor Survey (CLS) (PCBS, 1998), and becomes at least one week during the reference period (the previous 12 months, started October 1997), whether as a paid employee or unpaid in a family-owned enterprise, or through self- employment.

4.3 The model

The estimation methods analyze the determinants of child labor as a sequential-response model (SRM) using three binary probit models, discussed in Maddala (1983). SRM consists of the following series of binary decisions (Grootaert, 1998):

P1 = probability to go to school and not to work.

P2 = probability to go to school and to work.

P3 = probability not to go to school and economically active.

P4 = probability not to go to school and not economically active.

In the sequential probit model, we can write the probabilities as follows:

$$P1 = F(\beta'_1 x) \quad (1)$$

$$P2 = [1 - F(\beta'_1 x)]F(\beta'_2 x) \quad (2)$$

$$P3 = [1 - F(\beta'_1 x)][1 - F(\beta'_2 x)]F(\beta'_3 x) \quad (3)$$

$$P4 = [1 - F(\beta'_1 x)][1 - F(\beta'_2 x)][1 - F(\beta'_3 x)] \quad (4)$$

Where *F* represents the standard normal distribution function, ß's are vectors of the model parameters. The vector *x* contains the explanatory variables as we show in section two (or table 1). Elements of the vector ß1 were estimated from the entire sample by dividing it into two groups: go to school only and otherwise. The parameters in ß2 were estimated from the sub-sample of attending school by dividing it into two groups: go to school with work and otherwise. The parameters in ß3 were estimated from the sub-sample of not attending school by dividing it into two groups: economically active and not economically active. In each case the binary models are estimated by the probit method.

We do not analyze the data on children who work as waged employees because there are not enough observations. Also, as a special case for the PT, we use the definition of the economically active children as ILO's definition (employed and unemployed children), because children who search for a job are in need of work, but the problem is the demand for labor is weak. Through the crises, the labor market collapsed and it could not absorb more workers from both classes (children and adults). So, it is important to understand the determinants of the economically active children aged 10-17 years. This group of children is taken because, as we mentioned above, the percentage of working children 5-9 years is 0.8 percent of all children in the same age group.

4.4 Empirical results

Table 2 shows the sequential probit results for the determinants of the probability to go to school and not to work, the determinants of the probability to go to school and to work, and the probability to work only. The first column contain the marginal effect of the estimates (in percentage), which shows the change in probability, due to a one-unit increase at the mean of a given explanatory variable, while holding all other variables constant at the mean, the second column contains the standard error.

In the first part of the analysis, which has to do with the probability of joining school only, the results showed a strong and significant effect for the age and gender of the child. The age showed a negative effect, one more year in the age would increase the probability of school deserting by 3.8 percent, this results is logical and in harmony with previous studies, see for example the empirical studies review for children in schooling and labor (Dar et al; 2002). The probability to join school by girls is 4.9 percent more than that of boys. The Intifada had a positive and significant effect on younger children; these children's probability of joining school only has increased. The girls also were affected through Intifada, their probability of joining school decreased by 3.6 percent over that of the boys (see table 2). This means that girls started to leave school during the Intifada, which forms a negative indicator as an outcome of the late crisis.

The employment status of head of household are insignificant to influence on child's education, but age and level of educational attainment are significant as it is the case for mother employment status and education. The older the head of the household, the more likely it is that the child will be attending school and not working.

Parents education has a approximately similar positive influence on child's education. The mothers relationship with the labor force is one of the amazing results regarding family characteristics effects on children's education. The results show a negative and significant effect of mother's work on her children's education. The employed mother decreases the probability of her children's school attendance by 4.1 percent in comparison with others. But there are several studies which show opposite results (e.g. mothers' employment status is most important determinant of school participation in urban areas (Grootaert, 1998 and if a mother is employed, the child is more likely to combine work with school, rather than working full time). It is worth noting that the proportion of working women as unpaid family members is 41 percent and the percentage of women

who work in the agricultural sector is 38 percent (third quarter 2000). This explains the adverse relationship with education, where most of the mother's work is a family one which most of the time absorbs the children and subsequently affects their educational development.

The Intifada has significantly affected some of the determinants of the family's characteristics. The relative effect of the father's education on the children's education fell from 0.6 percent to 0.4 percent. This result is attributed to the financial need of the family, which affects the family plans of its children's education. At the same time, the mother's education positively affected the children's education, while her work had a negative effect on children's education it fell from 4.1 percent to 2.9 percent for the pre-Intifada and during Intifada respectively. This drop could be attributed to the direct influence of the Intifada on family businesses many of which were closed. These effects resulted in drop of the percentage of the women working as unpaid family members to 26 percent. The percentage of the women working in the agricultural sector dropped to 27 percent during the Intifada (second quarter 2001) compared to the 38 percent mentioned above. This provides another explanation for the negative influence of mothers work on the education of their children, family businesses have a negative and significant effect on the probability of leaving school. The economic crisis which resulted from the Intifada led to many business failures and therefore affecting children school attendance. The remaining family characteristics were not significantly affected by the Intifada. Unemployment rate increased sharply during the Intifada, it is customary to think of this as a cause of or a reason for increased probability to leave school. But the analysis gave counter intuitive results, which showed that there is no significant influence of adult unemployment in the family on the children school attendance. It is likely that this result has been explained through other factors in the model, one of which is the Intifada dummy variable.

House inhabitants' density has an adverse and significant effect on the probability of the children's joining school, the Intifada did not affect this variable. The number of children (0-17 years) in the family had a negative and significant effect on the probability of their school attendance, taking into consideration the fact that the effect of these characteristics is not large in comparison with other factors. This result confirms the negative effect of the household size on the children school attendance and to work together. The household size is one of the characteristics of poverty; the poverty report (MOPIC, 1998) shows that 73 percent of the poor Palestinian families include more than five members taking in to consideration the average Palestinian household size of seven persons (estimates 1997). The bigger the household size, the more likely is the household to be poor (MOPIC, 1998).

As far as the locality type, the analysis showed that the probability of school drop outs in the rural areas or in the refugee camps to be more than in urban centers. The poverty report indicates that the highest poverty rate exists in the refugee camps (33 percent) followed by rural and urban areas (20 percent each). It is surprising that school drop outs in Gaza Strip decreased despite the high unemployment and poverty rates as compared to the West Bank. This could be explained by the fact that most children in Gaza Strip are enrolled in UNRWA and governmental schools at a minimal cost. Gaza Strip is a closed and fenced area, which discourages children to quit schools for work in Israel. The Intifada affected these determinants. Rural areas were affected significantly and adversely. Evaluated at the mean, the rural dummy reduced the probability of school drop out prior to the Intifada but increased it during the Intifada. This gives another interpretation for the negative effect on the family enterprise through the Intifada. Also, the situation in Gaza Strip changed completely but differently. The effect of Intifada became significant and negative on education, the probability of joining school of the child who lives in the Gaza Strip increased 1 percent more than that of West Bank children while the probability of their joining school dropped by 0.3 percent during the Intifada.

The second stage of the analysis, which is concerned with the determinants of work and education together, showed that most of the factors have a significant effect. The effects of the characteristics of the child were in conformity with most of the previous studies, for example, the age of the child has a positive and significant effect, whenever age increases 1 year, it decreases the probability of deciding to work and go to school by 1.5 percent. Also, the girl's probability to combine work and study is 10 percent less than that of the boys, and has not been affected during the Intifada. But the age factor was affected by the Intifada, the probability of combining work and study dropped, leaving younger children to have stronger tendency to work and study simultaneously.

The analysis indicates that all the characteristics of the head of the household and the mother of the child to have a significant impact on the probability of taking the decision of combining work and education. The probability of combining work and education by children who belong to a family headed by a woman increased by 3.5 percent. This percentage doubled to 7.4 percent through the Intifada. This increase could be explained by the stronger need for a second source of income by such families. Also, the older the age of the head of the household the stronger the probability of the child to combine work and education. The analysis showed a direct effect of the education of both the father and mother on the decision of their children to work. But the effect of parents employment is stronger than that of their education. Children who belong to a household whose head is employed have a higher probability (of simultaneously studying and working) than others by 3.6 percent. At the same time, the working mother increases the probability of her child to combine work and education by 9.1 percent in comparison with others, while the education of the head and mother increases that probability by 0.6 percent and 0.2 percent, respectively. During the Intifada, the work of the mother increased the probability of her children to combine work and education to 11 percent, which is relatively high in comparison with other determinants.

The number of the unemployed household members registered an adverse effect. Whenever the number of the unemployed adult members of the family increases, the probability of the children to go to work or to become idle increases by 2.1 percent. There was an insignificant effect for the number of children whose ages were 10 years or less, while the children whose ages were more than 10 years had a direct and significant effect. But this effect was relatively small. In general, the household density had an adverse effect. The more the density is, the stronger the probability for the child to work or to become idle.

The rural children's probability to combine work and education is 3 percent more than other areas. This could be due to the availability of the household enterprises and the opportunities for the children to work without deserting school. The laws in the PT do not prohibit children from working with their families to help or to gain experience because in this case the child will be working for people who care for him. The probability of the children who live in Gaza Strip to combine work and education is 4.2 percent less than that of the children who live in the West Bank. The last factor was strongly affected during the Intifada, the probability of the children who live in Gaza Strip to choose to combine work and education was 0.9 percent less than that of the children who live in the West Bank during the Intifada. This result could be due to the harsh and more restrictive closure on GS which is more tightly controlled by Israel.

The third stage of the analysis which was related to the probability of work only, showed that the older the child is the stronger the probability will be for him to work. Girls, however, have a 56 percent points lower probability of going to work only than boys. This means that girls have stronger tendency to stay home and get engaged in home care tasks. The gender and the age of the household head, proved to have no significant effect on the probability of work, these results are in harmony with other research as Grootaert (1998). Wherever the years of education of the head of the household increases, the probability of child work

decreases by 0.9 percent. This probability increases by 3.5 percent in the case that the head of the household was working. The Intifada affected the characteristics of the head of the household. The effect of the education of the head of the household decreased whereas the effect of the education more than doubled. Therefore the probability of the head of the household to work increases the probability of the child to work only by 9.4 percent in comparison with others.

The analysis did not show a significant effect for the mother's education, while it showed a direct and significant effect for the mother's work. A working woman raises her child's probability to work and stay away from home by 17.7 percent. It could be noticed that the work of the women had a very strong influence on the decision to be taken by her children as to which lane they should choose; education or work. Taking into consideration that the work the Palestinian women usually do is unpaid for. In addition, Palestinian women mainly work in the agricultural sector were most of the household enterprises exist, as it was previously mentioned. But if the phenomenon was strongly related to the work of women in the enterprises, the work of children could be fine without affecting his health or growth. This could be shown in the household enterprises.

Unemployment among household members raises the probability of the children to stay home or to become idle. Wherever the number of the unemployed adults rises, the probability of the male children to become idle or the girls to get engaged in home care tasks increases by 7.7 percent. This is an indicator of the inability of the labor market to absorb the labor force. The increase in the number of the unemployed persons means that the labor market is not able to absorb more labor force, which results in the decrease of the probability of creating more jobs for both adults and children. No significant effect was shown for the household density or for the number of children in the household.

The probability of becoming idle for the male children or for the girls to perform housekeeping increases in the refugee camps. Factors like house density and

poverty, which strongly exist in the refugee camps force children to become idle. The probability of the children who live in refugee camps to choose to work only is 6.3 percent less than those who live in urban centers. In the same time, the probability of the children who live in Gaza Strip to choose to go to work decreases by 7.1 percent in comparison with the children who live in the West Bank. The high unemployment rate in Gaza Strip and the failure to go to work in Israel because of the completely closed borders is one of the reasons behind that decrease. The Intifada raised the probability of the male children to become idle and the girls to get engaged in home care tasks to 11.8 percent. In short, it appears that the decision to supply child labor is significantly influenced by the age and gender of the child. This result is in line with the results of the different studies about the subject. In general, there is a significant influence for the head of the household and mother, especially the work of the mother which raises the probability of choosing to work only and staying away from school, or to choose to combine both or only to work for the children who do not attend school. The education of the mother and head of the household positively affects the children education. The number of the unemployed adults in the family has a significant influence on the probability of combining work and education or to work only. This factor has the effect of attracting boys to become idle and girls to stay home and get engaged in housekeeping tasks without education. This is a clear negative effect.

The house density (household size divided by number of rooms) and the number of the children have a significant effect on choosing education or combining education and work together. Mean while, these factors have no effect on the decision to work or not. Most of the time, the kind of the community of the child whether it is rural, urban, or a refugee camp has a significant effect on that decision (to choose education or to combine education and work together). Rural communities direct their children to go to work whether he attends school or not. The probability of the children who live in Gaza Strip to choose education is more than that of the children who live in the West Bank. This is a significant effect

despite the high unemployment and poverty rates there. During the Intifada, many of the above mentioned determinants were significantly affected. These effects were described as negative. An example for this negative influence is the increase in the probability of the younger children to leave school and go to work.

Chapter Five
Impact of Family Characteristics

5.1 Introduction

The previous chapter discussed the direct and indirect impact of Israeli measures on child labor and education determinants. This chapter will shed light on the impact of household structure (size, education of household members) on child trends toward labor and schooling, using a new and different data set.

According to the stated hypothesis in a published research paper by, Patrinos and G. Psacharopoulos (1997), regarding household size and child enrollment in education, the hypothesis is the larger the family size the lower probability of child enrollment. The research also emphasizes the importance of household structure and educational attainment. For this reason, this chapter will study these hypotheses and will check whether they are applicable to the Palestinian situation or not. It is also the intention to check indirectly that the living conditions of Palestinians in general and Palestinian children in particular have an impact on the determinants of child labor.

This chapter aims at linking poverty and child labor and their education. Despite the facts that the previous results do not show a significant impact of poverty on educational attainment of child because the educational system is almost free. This chapter will study the household characteristics as determinants affecting households to be in poverty sphere. This analysis will help in studying the relation of poverty with child labor.

The impact of child labor on education is not strongly clear; although many studies ensure the close relation between education and labor; the question to be raised is to what extent child labor affect education.

This chapter will target the waged employee working children, and study the determinants that lead them to work and not to continue their education, also to study whether their work has an impact on the educational attainment.

Empirical analysis using dependent variable as a dummy variable determines child labor determinants, where educational level, labor and waged employee was dealt with. The analysis separates between male and female, and between Gaza Strip and West Bank. Probit model was used in analysis of data (see the annex for more details).

5.2 Data

Data used for analysis are those of child labor survey[10] that has been conducted during January and February, 2004 by the Palestinian Central Bureau of Statistics. This survey was the first of its kind in the Palestinian Territory; it provides many indicators that suit our needs for analysis. Using this data set allows more accurate analysis about child labor and the relation with household characteristics. The survey sample allows disseminating results at the level of the West Bank, Gaza Strip separately. It is also possible to disaggregate at the level of type of locality (urban, rural and refugee camps), data was collected for 28,193 child aged 6-17 years.

The higher sample size reduces the variance and the standard error estimated coefficient, the attached flow chart (Figure 2) shows observations for each targeted group and classified according to education and labor general frame.

Child labor was classified according to job risk factor according to ILO concepts of these groups. Employed child: each child worked during the reference period

[10] For more details about child labor survey, review www.pcbs.gov.ps

(last week preceding the survey) for at least one hour for wage or worked at least for 15 hours as unpaid family member. Children working in risky jobs (child labor ILO definition) are classified into three main groups; the first those aged less then 12 years, for this group, if the child worked at least for one hour will be considered child labor.The second group are those aged 12-14 years, if the child worked less than 14 hours per week in risky jobs (prohibited occupations such as constructions) then they are considered as child laborer.The third group are those 15-17 years and they are classified as child laborers if the child worked for more than 40 hours per week in any activity or less than 40 hours in risky occupations. Risky occupations are in accordance with the Palestinian Ministry of Labor classifications and definitions. These definitions will enable us to understand the derived variables used to study determinants of child labor. Child Labor Survey was asked in two ways, in the first, the child's parents were interviewed and in the other interviewing the child himself. Discrepancies have been noticed between the two sets of answers, in such cases the child's answer himself was considered (non-proxy survey).

5.3 The variables and the model

5.3.1 The variables

In studying the impact of household characteristics, child educational attainment, and labor market attachment, analysis will follow four main parts, to be integrated to reflect a whole picture about the impact on the dependent variable of household structure (demography and economic characteristics). This will also enable us to understand the impact of work on the household or as wage employee on education, in addition to being able to identify the determinants of child work, in general or in working in risky jobs.

The first part of analysis focuses on child educational attainment and continuous passing stages without repeating classes, a derived variable was created to measure the child success in the different education stages.

The second part of the analysis aims at studying the impact of work on education (only targeting enrolled children in education). The third part targeted all working children regardless of the classification of work status; this enables us to determine the determinants of child work. The fourth part targeted the children working in risky jobs; this shows differences in factors affecting child status in the third and the fourth part of analysis.

The following probabilities can be studied according to the four different parts of analysis:

1. The first probability: Household characteristics that raise or reduce probability of dropout from school,
2. The second probability: Household characteristics that raise or reduce probability of success and passing education stages,
3. The third probability: Household characteristics that raise or reduce probability of student attachment to the labor market
4. The fourth probability: Household characteristics that raise or reduce the probability of child attachment to the labor market,
5. The fifth probability: Household characteristics that raise or reduce probability of child's decision to work for wage,
6. The sixth probability: Household characteristics that raise or reduce probability of child work in risky jobs.

According to the above-mentioned probabilities, six derived variables were created; each is dependent variable as follows:

P_1: attending school = 1, otherwise = 0

P_2: Age-grade distortion *(the following paragraph show the measurement of it)*

P_3: employed = 1, otherwise = 0 (for student aged 8-17 years)

P_4: employed = 1, otherwise = 0 (for children aged 8-17 years)

P_5: paid employee= 1, otherwise = 0

P_6: child labor (ILO def.) = 1, otherwise = 0

Measuring continuity of child in education stages without break or repeating classes (age-grade distortion SAGE) (Patrinos and Psacharopoulos, 1997) do as follows; a derived equation used by Patrinos and Psacharopoulos (1997), in their research where age (A), years of schooling (S), official age at attending school, which is 6 years in the Palestinian Territory (E).

$$SAGE = \frac{S}{A - E} \times 100$$

Depending on this equation, the first dependent variable (overage $\equiv P_2$) is derived constituting a dummy variable, where if the value of SAGE <100 then overage = 1, and all other values overage = 0.

The different independent variables focus on demographic and economic status of the household, many studies reveal the direct relation of child labor and education with the socio-economic characteristics of household. Father education has a positive impact on child education and a negative impact on child work, while mothers education has not a significant impact on child participation in labor force, but it has a positive impact on child education (Canagarajah and Coulombe, 1997), (Grootaert, 1998). Deb and Rosati, (2002) pointed the strong relation of child parents' education on child work and education , other researcher pointed to mother education having a negative impact on child work mainly wage employee (Cartwright and Patrinos, 1999).

Many studies showed the importance of parents work on child educational attainment and work, mother work is considered substitute to child work, and the household that has a enterprise raises the probability of child work and study together (Cartwright and Patrinos, 1999), (Rosenzweig and Everson, 1977). Certain parents' activities raise probability of child work (Patrinos and Psacharopoulos, 1997). Parents labor force status was not discussed in this chapter

as independent variable, while only used household expenditure as independent variable.

"Generally there are two explanatory variables used to test the impact of income on nature of child work and education; the first is expenditure equivalent per adult, and the second a binary variable representing whether or not the household is under the poverty cut-off-point. Sometimes income was used as substitutes of expenditure to measure household welfare, but it is preferred to use expenditure rather than income due to biased income estimates" (Dar et al, 2002). Many studies showed the direct impact of household expenditure or welfare levels on child education (Blunch and Verner, 2000), while other studies do not find a significant impact of income or welfare on child work (Canagarajah and Coulombe, 1997). Studies that showed a strong relation between child work and household welfare, indicated a negative relation; as income or expenditure increased the probability of child work decreased mainly for full-time employment (Cartwright and Patrinos, 1999), (Coulombe, 1998), (Grootaert, 1998). Depending on these basis welfare indicator was used to be tested as important a summation in testing factors rising child work probability.

As mentioned previously the dependent variable was defined according to work status, work as unpaid family member, wage employee or child labor (risky jobs). Welfare level was measured in this study by using the income binary variable, where equivalent poverty line of the Palestinian Territory for the first quarter 2004 was used; monthly NIS 1800 for a household consisting of two children and two adults. For calculating the equivalent poverty line for each household according to its size; Equivalent adult scale (E)[11] was calculated.

$$\mathrm{E} = \frac{\left(N_a + \left(0.46 \times N_c\right)\right)^{0.89}}{3.1172}$$

[11] Produced by poverty team in MOPIC/PNA. For more details please look at "poverty report in Palestine" published in 1998.

where N_a is number of adults, and N_c is number of children.

This equation was used in Palestine Poverty Report, 1998, accordingly poverty line (*PL*) is calculated for each household.

$$PL = \mathrm{E} \times 1800$$

Households indicator below poverty line was calculated as explanatory variable and was identified as poor, where if the value of household income is below poverty line it takes the value "1", else it takes the value "0", so we do exclude the inaccurate estimate of expenditure value and this simplify reading results to identify the impact of poverty on the attitudes of child toward education.

Several studies showed that the household size has impact on low welfare levels (MOPIC, 1998). "Larger families are correlated with poverty. Being poor is correlated with lower schooling level and lower enrollment rates of children" (Patrinos and Psacharopoulos, 1997). This shows that the assumption poverty has a direct relation on rising the probability of child attitude toward work and dropout of school, "some argue that the trade–off between child schooling and number of children is not very relevant for some developing countries" (Patrinos and Psacharopoulos, 1997). Local studies (such as child statistics report in the Palestinian Territory) showed that there is a culture in rural areas to give birth to more children to help in agriculture and farming works of the household. For proving such a hypothesis, three derived variables have been calculated, children aged under 7 years, still need care, children aged 7-18 years, and the third variable those aged 19 years and over. Another variable was derived for individuals not enrolled in education, this means whether the child dropout education at a certain educational stage or never enrolled education; this variable will help in studying the hypothesis that the household avail some children to help in household income through working in family project or to work as wage employee and some children continue their education. "Here it is hypothesized that the number of

siblings not enrolled in school should be negatively related to age-grade distortion and child labor" (Patrinos and Psacharopoulos, 1997).

Analysis according to region (West Bank and Gaza Strip) and type of locality (urban, rural and refugee camps) were considered separately due to diversity of characteristics of these variables regarding the different indicators, unemployment, poverty, economic activity, and consumer price index (CPI).

5.3.2 The model

Due to the nature of the dependent variables, Probit model was used as a tool to achieve the research objective. Equations 1-4 were estimated sequentially with dummy variables signed as defined in section 4.3.

5.4 Empirical results

The data was analyzed according to region (West Bank and Gaza Strip) due to the different characteristics of each region, this was found to be the case in all stages of analysis. Presenting data will proceed according to region and studying reasons that may lead to the variation in results. The results are presented in tables 8-13. The first set of numbers in each table represents the marginal effects (dF/dx) to help us to make comparison between the explonatory variables, and to read the percentage of effect.

Child age and gender for most stages of the analysis showed significant impact on all dependent variables, as age of child increase, the probability of school dropout increases by 0.7 percent in West Bank and 0.6 in Gaza Strip (see table 8). Probability of repeating classes increased by 0.7 percent in the West Bank, and 0.5 percent in Gaza Strip (see Table 9).

It is noticed that there is a slight trend in the rise of entering labor market probability or dropout as age increased, especially in risky jobs, the reason for that is due to child labor definition as mentioned previously.

The result in table 8 showed that males' dropout probability is higher by 0.5 percent in the West Bank and 1.1 percent in Gaza Strip than females. Also males repeating clases or interrupting education, probability is higher than for females by 1.1 percent in the West Bank and 0.4 percent in Gaza Strip (see Table 9), this indicates that variation of males and females' education continuity in the West Bank is higher than that of Gaza Strip.

Male students probability to join labor market is higher than that of female student by 8 percent in the West Bank compared with 4 percent in Gaza Strip (see Table 11). Data also show that the probability of all children to join labor market increased in West Bank by 9 percent and 5 percent in Gaza Strip (see Table 10), while work for others, the probability for males is higher than that of females by 4 percent in the West Bank against 3 percent in Gaza Strip (see Table 12), where the gap among males and females is lower than that of the West Bank.

Parents educational level in both West Bank and Gaza Strip has a significant impact on not dropping out school or passing successfully educational stages for their children, excluding mother education in Gaza, where analysis showed that it has no significant impact of passing successfully educational stages due to large family sizes that needs a lot of care rather than education. As years of schooling of parents increased probability of child continuing enrolled in education increased and gap of age-grade distortion probability is decreased.

Child joining labor market in the West Bank is affected by mother education, as mother years of schooling increased, the probability of child joining labor market and risky job decreased (see Table 10), and while in Gaza Strip father's education affects child joining work for others, while both parents education do not affect

other kinds of work. As father's years of schooling increased the probability of working for others decreased.

Father's work affects negatively student joining work, working father increases the probability of his child to join labor market by 4 percent in the West Bank and 2 percent in Gaza Strip (see Table 10). Also fathers' work increased the probability of child work for others in Gaza Strip by 0.3 percent while it has no impact in the West Bank, while fathers' work in the West Bank affects negatively the child joining risky jobs; working fathers rise the probability of child work in risky jobs by 2 percent in the West Bank, and no impact in Gaza Strip (see Table 13).

Fathers' work affects positively child dropout, where fathers' work increases the probability of child continued enrollment in education by 0.6 percent in the West Bank and 0.5 percent in Gaza Strip. Also, working fathers in Gaza Strip decrease the probability of repeating classes or increasing gap of age-grade distortion by 1.2 percent, while no significant impact was noticed in the West Bank (see Table 8 and 10).

Increased number of children aged under 7 years in the household decreases the probability of child to continue education, increasing probability of dropout in both West Bank and Gaza Strip.While dropout probability for children aged 7-18 years increased in the West Bank only, where the noticed increase in the number of children in the household in the aged group 7-18 years. The age-grade distortion increased by 0.5 percent, but no impact is noticed in Gaza Strip, while the increased number of adults 18 years and over in the household affect positively in the West Bank, as the number increased the probability of increasing age-grade distortion decreased by 0.8 percent and no impact in Gaza Strip (see Table 9).

The results also show that number of not enrolled children or those who leave school in the household have a negative impact of children education, as their number increased the age-grade distortion increased in both the West Bank and Gaza Strip (see Table 8).

As the number of children aged under 7 years increased in the household in the West Bank the probability of child to join labor market increased, while the size of this age group in Gaza household does not have such impact, but number of children aged 7-18 years in Gaza Strip households increases the probability joining labor market as their number increased in the household. The number of adults aged 19 years and over in a household affects negatively students in the West Bank to join labor market as adults number in the household increased students probability to join labor market increased, while in Gaza Strip as the number of adults increased the probability of child to join labor market decreased.

In the West Bank number of children aged less than 7 years in the household has negative impact of child trend to work for other and to work in risky jobs, as the number increased the probability of the work for others or to work in risky jobs increased, while there is no impact in Gaza Strip case.

The age group 7 years and over affects negatively child work for others, as the number increased the probability of joining work for others increased, also number of adults affects the case positively as the number increased the probability of children to join risky jobs decreased.

Analysis of data shows that as the number of not enrolled children in school or dropout increased the probability of wide age-grade distortion will increase and also the probability to attend labor market is increased in the Gaza Strip and no affect in the West Bank. While this affects children at the national level negatively to work for other or to work in risky jobs, as the number of not enrolled increased the probability to work for others or work in risky jobs increased.

Child work whether as wage employee or unpaid worker affect dropout from school. The figures in table 8 show wage employee children decrease probability of children to continue their education by 17.2 percent in the West Bank and 18.1 percent in Gaza Strip. While unpaid family children's probability to continue education decreased by 4.4 percent in the West Bank compared with 6.9 percent in Gaza Strip. Results show that there is no significant impacts of children work on widen age-grade distortion.

Poverty does not affect education, table 8 shows that there is no significant impact of poverty on education due to that education is not costly as it was mentioned previously, while results show that poverty increases the probability of children to join labor market and to work for others.

Poverty was found to affect childwork (ILO definition). The Palestinian Territory is divided according to type of localities into urban, rural and refugee camps. The results of analysis show that rural children probability to continue their education increased by 0.4 percent compared to urban and refugee camps children in the West Bank, while no significant difference among Gaza Strip children in the different types of localities (see Table 8).

Regarding passing educational stage successfully, no significant differences have been noticed in the West Bank different types of localities. While in Gaza Strip the probability of wide age-grade distortion for rural children increased by 1.4 percent compared with the other regions, the probability increased by 0.6 percent in the refugee camps (see Table 9).

The probability of rural children to join work in West Bank increased by 0.4 percent compared with urban and refugee camps, while in Gaza Strip there has been no significant diferences.

The probability of children work for others in West Bank rural areas is lower than that of urban and refugee camps.There was no significant impact of type of locality on working for others in Gaza Strip, in the West Bank, rural areas work in agriculture is high, for that reason agricultural sector increases the probability of working for the household and this will reduce the probability of children work for others.

Chapter Six
Conclusions and Recommendations

Child labor is not a critical problem from quantitative view as compared to other developing countries. But fears emanate from the kinds of work that the Palestinian children are engaged in. Hard and risky work conditions endanger the lives of these children and threaten the present and future child growth positional. Dealing with such a phenomenon requires care and patience. One of the most important kinds of work that a Palestinian child does is that in Israel and the Israeli settlements where he/she works under the blazing sun or inside greenhouses. They leave home around 4 o'clock in the morning and return in the afternoon. During the Intifada, the situation became worse to the extent that some of children had to walk or to take a bike to get to work. In the case of being discovered by Israeli soldiers, they will be arrested and subjected to torture for days. The Israel authorities prohibited Palestinian work in Israel since start of the Intifada. Several incidents of murder took place at Israeli military checkpoints. There are children who work in vegetable markets where they will be required to carry heavy loads under sun or rain. There are also children who are self employed who sell newspapers, posters and other things. There are children who work in industrial zones as self-employed or as waged employees, in addition to children who work for their families as unpaid family members or in family enterprise, like farms or stores. Lately, (during Al Aqsa Intifada), children created new but very dangerous work opportunities, that is after the Israeli closure of the Palestinian cities by dumping dirt or by fences, it became impossible for vehicles to leave or enter these cities. This situation forced people to walk for more than 2 km sometimes. Hundreds of children started to operate wagons through these piles of dirt to carry passengers and loads for a trivial sum of money. The real difficulty is that during the Intifada. Minimal access to medical treatment results in the spread of diseases that threaten and endanger child growth.

Child labor is part of a more comprehensive phenomenon related to the structure of the Palestinian labor market, which depends basically on the economical dependence that has been created by the Israeli occupation since the 1940s through the absolute control on the passages, borders, and the local economy.

To scrutinize the determinants of the phenomenon of the child labor and education and their being affected by the Israeli measures, using the sequential probit model checked these determinants.

The results identify some key factors which affect the household's decision to supply child labor or to send their children to school: the age and the gender of the child, the gender of the head of the household, the education and employment status of the head of the household and the mother, the characteristics of the household as the household density and the number of unemployment adult in the same household, and the geographical location and type like refugee camp and rural. The Intifada significantly affected some of the determinants of the child labor. These determinants were education and employment status of the head of the household and the mother, the number of unemployed adults in the same household and the region (West Bank and Gaza Strip).

A big gap between boys and girls appeared in each stage of the analysis. The girls are more likely to attend school. Their probability of their staying at home without engaging in any work increases sharply. This is due to the home care a task that they will be engaged in. The analysis shows an increase in the probability of joining labor market by younger children during the crisis. In the Intifada, the probability of the girls to stay in school decreased. These results require caring for boys and girls by maintaining their schooling through improving the education conditions. As it was mentioned, education conditions were among the important reasons for student, to leave schools. Establishing a policy in the schools that can develop education conditions can treat these conditions. The reasons referred to the child's self abilities need social researchers in all schools to understand the

problems of these children individually and then describe the treatment for their problems. These researchers can explain how important the educational stage these children are passing. There is an urgent need, especially through the Intifada, for the psychiatrists, social researchers to exist in schools to help the children who have been affected by the Intifada, and these who have been psychologically hurt because of witnessing the Intifada indicators that take place every day. Also, there is an urgent need to clarify to the children's parent, the importance of the psychological treatment. The activation of the parent's committees at schools is as important.

The characteristics of the father and mother of the household have a strong effect on the children's education and work. Mother's work negatively but indirectly affects the children's education. This appears through the effect of the household enterprises on child education. "The presence of household enterprises as an in-house source of employment for children is a double-edged sword. On the one hand, the direct effect is to increase greatly the odds of a child working, but the increased income of the enterprise reduces the odds of the child labor" (Grootaert, 1998, p68).

The current Palestinian labor law indirectly allows child labor within the household frame. But it did not take into consideration the negative effect on the education of the children who work in their household enterprises. Therefore, this matter must be taken into consideration through passing the laws that prohibit child labor in the household enterprises.

The educational level of the father or mother of the household has a positive effect in all cases. Education reduces the probability of leaving school and entering the labor market. But it will not be possible to control the education of the father/head of the household or mother in the short run. Promoting education levels comes through promoting the level of education for the new generation. In this way education levels can be improved in the long run.

Concerned institutions should introduce laws that enforce improved abidence by the compulsory education. Vocational education and training requires more attention. Similarily, alternative educational institutions should be established to address the vulnerable students. The reduction of the education cost needs serious consideration. Flexible schooling hours (shifts) must be established to enable the older children to work and hence secure an income for their families (poor families). This can be obtained by shortening the summer holiday, especially that the attendance hours in several area, are very short because of the curfew.

All of these determinants had an effect identical to that of poverty. For instance, the size of the household has a negative impact on poverty as compared to the educational attainment level of the head of the household (MOPIC, 1998). This is a clear indication of the strong relationship between poverty and child labor.

Throughout the crisis, child education in Gaza Strip underwent severe deterioration. Urgent mechanisms to address child dropouts are of utmost importance. The collapse of education in rural areas emphasizes the fact that the increase in household enterprises aggravates school dropouts. Thus, the analysis emphasizes the positive effect of the nominal cost of education for the students who live in the refugee camps despite poverty.

Tables

Table 1: Definition of Explanatory Variables Used in the Models

(for table 2)

Variable name	Descriptive
Child characteristics	
Sex*	Gender (female =1, male = 0)
sex_int*	Gender × *Intifada*
age	Age of child
age_int	Age of child × *Intifada*
Parent characteristics	
sex_hh*	Gender of the head of the household (female = 1, male = 0)
sexh_int*	Gender of the head of the household × *Intifada*
age_hh	Age of the head of the household
ageh_int	Age of the head of the household × *Intifada*
yschl_hh	Years of schooling of the head
yrsh_int	Years of schooling of the head × *Intifada*
hh_emply*	Employment status of the head (employed = 1, other = 0)
emph_int*	Employment status of the head × *Intifada*
moth_sch	Years of schooling of the mother
yrsm_int	Years of schooling of the mother × *Intifada*
moth_emp*	Employment status of the mother (employed = 1, other = 0)
empm_int*	Employment status of the mother × *Intifada*
Household characteristics	
un_adult	Number of adult unemployed in the household
unem_int	Number of adult unemployed in the household × *Intifada*
hdinsity	Household density
dins_int	Household density × *Intifada*
ch0010no	Number of children aged 0 to 10 years in the household
Ch1117no	Number of children aged 11 to 17 years in the household
Locality type	
rural*	Rural =1, other = 0
rurl_int*	(Rural =1, other = 0) × *Intifada*
camp*	Refugee camp =1, other = 0
camp_int*	(Refugee camp =1, other = 0) × *Intifada*
Region	
gs*	Gaza Strip =1, other = 0
gs_int*	(Gaza Strip =1, other = 0) × *Intifada*

Intifada = 1 *if the period through the crises,* ***Intifada = 0*** *if the period before the crises*

* : the variable is a dummy variable

Table 2: Sequential Probit Results (Marginal Effects) in the PT

Variables	School Only			School and Work			Work only		
	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.
sex	4.903	*	0.0037	-9.859	*	0.0099	-55.561	*	0.0182
sex_int	-1.297	*	0.0056	-0.721		0.0184	-1.271		0.0428
age	-3.756	*	0.0008	-1.484	*	0.0020	9.512	*	0.0063
age_int	0.118	**	0.0010	0.422	**	0.0026	-0.140		0.0069
sex_hh	0.519		0.0076	3.494	**	0.0242	-2.786		0.0430
sexh_int	-0.115		0.0115	3.898	**	0.0418	2.765		0.0735
age_hh	0.171	*	0.0002	0.237	*	0.0005	-0.096		0.0013
ageh_int	0.006		0.0003	-0.193	*	0.0007	-0.117		0.0017
yschl_hh	0.561	*	0.0005	0.576	*	0.0011	-0.890	*	0.0033
yrsh_int	-0.113	**	0.0008	-0.052		0.0019	0.590		0.0048
hh_emply	0.295		0.0048	3.642	*	0.0096	3.527	**	0.0265
emph_int	0.349		0.0063	-1.226		0.0155	5.914	**	0.0416
moth_sch	0.525	*	0.0005	0.245	*	0.0011	-0.101	**	0.0035
yrsm_int	0.142	**	0.0008	0.017		0.0020	-1.164	*	0.0050
moth_emp	-4.135	*	0.0062	9.090	*	0.0164	17.727	*	0.0367
empm_int	1.249	**	0.0067	1.910	**	0.0195	4.405		0.0523
un_adult	0.096		0.0043	-2.125	**	0.0116	-7.704	*	0.0254
unem_int	-0.434		0.0052	-0.382		0.0165	8.952	*	0.0310
hdinsity	-0.365	*	0.0014	-0.545	**	0.0031	-0.693		0.0086
dins_int	0.014		0.0020	-0.208		0.0053	0.050		0.0122
ch0010no	-0.241	*	0.0009	-0.189		0.0022	0.266		0.0057
ch1117no	-0.006	*	0.0000	0.012	*	0.0000	0.003		0.0001
rural	-0.481	**	0.0044	2.930	*	0.0100	0.955		0.0270
rurl_int	0.689	**	0.0059	0.166		0.0158	-0.928		0.0380
camp	-1.168	*	0.0055	0.295		0.0119	-6.332	*	0.0276
camp_int	-0.208		0.0073	-0.522		0.0188	2.394		0.0461
gs	1.059	*	0.0041	-4.155	*	0.0081	-7.114	*	0.0242
gs_int	-1.393	*	0.0066	3.303	**	0.0226	-4.671	**	0.0341
Log Likelihood			-10319			-1070			-1395
Number of observation			35903			4193			3689
LR chi sq. (28)			5530			856			1952
Prob > Chi sq.			0.0000			0.0000			0.0000
Pseudo R sq.			0.2113			0.2858			0.4116

* Significant at 5 percent

** Significant at 10 percent

Table 3: The Main Characteristics of Children (10-17 years) in the PT: 2000-2001

Category	Q2-2000	Q3-2000	Q4-2000	Q2-2001	Q3-2001
West Bank					
By Gender:					
Male	50.9	50.1	50.2	50.9	51.8
Female	49.1	49.9	49.8	49.1	48.2
By Age Group:					
10 to 14 years	65.1	64.5	63.8	65.4	67.9
15 to 17 years	34.9	35.5	36.2	34.6	32.1
By Locality Type:					
Urban	51.5	51.9	52.0	51.6	51.8
Rural	42.1	42.1	41.8	42.3	42.2
Refugee Camp	6.5	6.0	6.2	6.1	6.0
By School Attendance:					
Attendance	89.5	88.9	88.6	90.7	91.3
Not Attendance	10.5	11.1	11.4	9.3	8.7
By Employment Status:					
Employment	6.0	7.5	3.6	3.4	2.9
Unemployment	0.6	0.5	1.9	1.1	1.1
Outside of LF	93.4	92.0	94.5	95.5	96.0
Gaza Strip					
By Gender:					
Male	50.1	49.5	49.4	49.7	51.4
Female	49.9	50.5	50.6	50.3	48.6
By Age Group:					
10 to 14 years	65.8	66.0	65.6	64.9	67.6
15 to 17 years	34.2	34.0	34.4	35.1	32.4
By Locality Type:					
Urban	64.2	65.0	64.7	63.5	56.4
Rural	5.9	5.6	4.6	5.1	11.5
Refugee Camp	30.0	29.5	30.8	31.3	32.1
By School Attendance:					
Attendance	90.9	89.2	89.6	90.9	91.5
Not Attendance	9.1	10.8	10.4	9.1	8.5
By Employment Status:					
Employment	2.7	4.2	1.5	1.3	1.3
Unemployment	0.7	1.0	1.4	1.2	1.0
Outside of LF	96.6	94.8	97.2	97.5	97.7
Palestinian Territory					
By Gender:					
Male	50.6	49.8	49.9	50.4	51.7
Female	49.4	50.2	50.1	49.6	48.3
By Age Group:					
10 to 14 years	65.4	65.0	64.5	65.2	67.8
15 to 17 years	34.6	35.0	35.5	34.8	32.2
By Locality Type:					
Urban	56.3	56.8	56.8	56.2	45.2
Rural	28.3	28.2	27.7	27.8	33.7
Refugee Camp	15.4	14.9	15.5	15.9	21.2
By School Attendance:					
Attendance	90.0	89.1	89.0	90.8	91.4
Not Attendance	10.0	10.9	11.0	9.2	8.6
By Employment Status:					
Employment	4.7	6.3	2.8	2.6	2.2
Seeking for job	0.6	0.7	1.7	1.1	1.0
Outside of LF	94.6	93.0	95.5	96.3	96.8

Q: Quarter

Source: Palestinian Central Bureau of Statistics, 2002. Labor Force Survey Database: 2000-2001. Ramallah-Palestine.

Table 4: The Main Characteristics of Employed Children (10-17 years) in the PT: 2000-2001

Category	West Bank					Gaza Strip					Palestinian Territory				
	Q2-00	Q3-00	Q4-00	Q2-01	Q3-01	Q2-00	Q3-00	Q4-00	Q2-01	Q3-01	Q2-00	Q3-00	Q4-00	Q2-01	Q3-01
By Gender:															
Male	93.5	90.1	87.4	93.9	92.1	93.6	97.9	-	98.0	100.0	93.6	92.1	89.9	94.7	94.1
Female	6.5	9.9	12.6	6.1	7.9	6.4	2.1	-	2.0		6.4	7.9	10.1	5.3	5.9
By Age Group:															
10 to 14 years	24.6	28.9	24.4	17.4	19.3	12.9	31.3	25.1	20.4	17.0	22.1	29.5	24.6	18.0	18.7
15 to 17 years	75.4	71.1	75.6	82.6	80.7	87.1	68.7	74.9	79.6	83.0	77.9	70.5	75.4	82.0	81.3
By Locality Type:															
Urban	45.3	41.1	47.4	48.1	35.7	78.6	74.4	73.4	64.6	55.3	52.5	49.7	52.5	51.4	40.6
Rural	49.0	52.7	46.8	45.0	52.9	3.1	4.8	0.9	12.8	27.7	39.1	40.4	37.7	38.7	46.5
Refugee Camp	5.7	6.1	5.8	6.8	11.4	18.3	20.7	25.7	22.6	17.0	8.4	9.9	9.7	10.0	12.8
By School Attendance:															
Attendance	32.2	47.5	22.3	23.9	25.7	14.0	36.5	20.9	12.9	29.8	28.3	44.7	22.1	21.7	26.7
Not Attendance	67.8	52.5	77.7	76.1	74.3	86.0	63.5	79.1	87.1	70.2	71.7	55.3	77.9	78.3	73.3
By Place of Work:															
Palestinian Territory	82.6	78.2	91.7	89.4	86.4	96.7	98.3	100.0	99.0	100.0	85.6	83.3	93.3	91.3	89.8
Israel and Settlement	17.4	21.8	8.3	10.6	13.6	3.3	1.7		1.0	0.0	14.4	16.7	6.7	8.7	10.2
By Employment Status:															
Self Employed	4.3	4.3	6.9	6.9	9.3	1.9	5.9	9.1	4.2	12.8	3.8	4.7	7.3	6.4	10.2
Wage Employees	52.1	53.5	34.2	38.3	37.9	55.3	57.6	37.5	44.2	38.3	52.8	54.5	34.9	39.4	38.0
Unpaid Family Members	43.7	42.2	58.9	54.8	52.9	42.8	36.5	53.4	51.5	48.9	43.5	40.7	57.8	54.2	51.9
By Industry:															
Agriculture	31.0	33.6	38.9	36.3	35.7	25.4	25.1	30.0	28.1	29.8	29.8	31.4	37.1	34.7	34.2
Manufacturing	17.1	18.7	14.8	20.0	18.6	26.1	25.8	15.5	31.8	12.8	19.1	20.6	15.0	22.3	17.1
Construction	22.7	20.3	12.9	13.2	16.4	16.4	13.7	2.4		6.4	21.4	18.6	10.8	10.6	13.9
Commerce-Hotels	24.7	21.7	28.0	28.6	25.7	18.2	24.9	32.1	32.9	44.7	23.3	22.5	28.8	29.4	30.5
Transport-storage	1.2	1.0	0.2		0.7	1.9	3.5	7.9	2.7		1.3	1.7	1.7	0.5	0.5
Other	3.3	4.7	5.1	2.0	2.9	12.0	7.0	12.1	4.5	6.4	5.2	5.3	6.5	2.5	3.7
By Occupation:															
Services-Shop	13.8	10.8	19.9	21.8	16.4	16.9	20.1	39.6	24.9	34.0	14.5	13.2	23.8	22.4	20.9
Skilled Agriculture	23.7	28.1	37.6	32.9	32.1	12.6	21.1	23.9	21.5	17.0	21.3	26.3	34.9	30.7	28.3
Craft	23.7	20.4	14.8	10.5	8.6	34.3	33.2	11.8	38.6	21.3	26.0	23.7	14.2	16.0	11.8
Elementary Occupation	34.4	37.3	25.7	28.4	35.7	29.8	20.6	20.0	15.0	25.5	33.4	33.0	24.6	25.7	33.2
Other	4.4	3.4	1.9	6.4	7.1	6.5	5.0	4.6	0.0	2.1	4.8	3.8	2.5	5.2	5.9
Averages:															
Av. of Weekly Work Hours	40.4	41.9	37.1	40.4	40.5	39.9	38.0	38.7	39.9	39.0	40.3	40.9	37.4	40.3	40.1
Av. of Daily Wage (US$)	13.8	13.5	13.0	12.0	13.3	7.7	7.0	7.3	5.3	6.5	12.3	11.8	11.7	10.5	11.6
Head of Household Chs.															
Av. Age in years	46.5	46.8	47.7	47.5	47.3	46.3	47.2	49.8	45.3	44.3	**46.5**	**46.9**	**48.1**	**47.1**	**46.5**
Av. Years of Schooling	7.0	6.9	6.5	7.2	6.9	8.0	7.8	7.4	7.2	9.5	**7.2**	**7.1**	**6.7**	**7.2**	**7.6**
Av. Daily Wage (US$)	19.3	20.5	17.9	17.6	16.2	14.7	13.1	10.7	9.3	9.2	**18.3**	**18.8**	**16.3**	**16.4**	**14.5**
Household Size	**9.3**	9.0	9.1	9.1	8.8	**9.9**	9.7	9.4	9.4	9.9	**9.4**	**9.2**	**9.1**	**9.1**	**9.0**

Av. = Average

Source: Palestinian Central Bureau of Statistics, 2002. Labor Force Survey Database: 2000-2001. Ramallah-Palestine.

Table 5: The Main Characteristics of Children (10-17 years) in the PT by Labor and School Status: 2000-2001

Category	1	2	3	4	Total	1	2	3	4	Total	1	2	3	4	Total	1	2	3	4	Total	1	2	3	4	Total
	Second Quarter of 2000					**Third Quarter of 2000**					**Fourth Quarter of 2000**					**Second Quarter of 2001**					**Third Quarter of 2001**				
By Gender:																									
Male	89.4	2.5	8.0	0.2	100	86.3	5.5	8.1	0.1	100	91.0	1.2	7.8	0.1	100	92.4	1.1	6.4	0.0	100	93.5	1.3	5.1	0.2	100
Female	92.9	0.3	0.3	6.5	100	91.2	0.6	0.5	7.7	100	91.7	0.1	0.4	7.7	100	93.8	0.1	0.3	5.9	100	93.7	0.0	0.3	6.0	100
By Age Group:																									
10 to 14 years	97.7	1.0	0.6	0.7	100	96.4	2.1	0.9	0.6	100	97.9	0.6	0.7	0.8	100	98.7	0.4	0.5	0.5	100	98.8	0.4	0.2	0.5	100
15 to 17 years	78.4	2.1	11.0	8.5	100	74.1	4.7	10.7	10.5	100	78.9	0.8	10.3	10.0	100	81.2	1.1	9.5	8.2	100	82.3	1.2	8.0	8.5	100
By School Att.:																									
Attendance	98.5	1.5	_	_	100	96.7	3.26	_	_	100	99.3	0.7	_	_	100	99.3	0.7	_	_	100	99.3	0.7	_	_	100
Not Attendance	_	_	55.4	44.6	100	_	_	51.4	48.6	100	_	_	50.3	49.7	100	_	_	53.2	46.8	100	_	_	47.2	52.8	100
Head of Hhold is:																									
Male	91.3	1.4	4.0	3.3	100	89.0	3.0	4.2	3.8	100	91.7	0.6	3.9	3.8	100	93.2	0.6	3.3	2.9	100	93.9	0.6	2.7	2.8	100
Female	87.7	1.3	6.3	4.7	100	85.5	2.9	4.9	6.6	100	85.0	0.9	7.0	7.1	100	91.1	0.7	3.6	4.6	100	88.5	1.3	3.6	6.6	100
Labor Status																									
In Labour Force	91.6	1.5	3.9	3.0	100	85.5	1.5	6.0	6.9	100	90.6	0.3	4.1	5.0	100	91.2	0.5	3.5	4.8	100	92.4	0.4	2.5	4.7	100
Outside LF	88.9	0.6	5.5	5.0	100	89.5	3.3	3.8	3.3	100	91.6	0.8	4.0	3.6	100	93.6	0.7	3.3	2.4	100	94.0	0.7	2.8	2.5	100
Refugee Status																									
Non Refugee	90.8	1.8	4.5	3.0	100	88.4	3.7	4.3	3.6	100	91.5	0.9	4.0	3.6	100	92.9	0.9	3.6	2.6	100	93.5	0.9	3.0	2.7	100
Refugee	91.6	0.8	3.7	3.9	100	89.3	1.9	4.2	4.6	100	91.1	0.3	4.0	4.6	100	93.3	0.3	3.0	3.3	100	93.8	0.4	2.4	3.4	100
By Locality Type:																									
Urban	92.3	1.0	4.1	2.6	100	89.8	2.4	4.0	3.7	100	91.8	0.5	4.0	3.8	100	94.5	0.3	3.0	2.2	100	94.1	0.5	2.5	2.9	100
Rural	88.0	2.6	5.0	4.4	100	85.9	4.8	4.9	4.4	100	89.8	1.3	4.7	4.1	100	91.4	1.1	4.0	3.5	100	92.5	1.0	3.2	3.3	100
Refugee Camp	92.5	0.5	2.8	4.1	100	90.3	1.6	3.7	4.4	100	92.5	0.2	2.8	4.5	100	92.9	0.4	3.0	3.6	100	94.4	0.4	2.3	2.9	100
By Region:																									
West Bank	89.7	2.0	4.8	3.5	100	87.5	3.7	4.6	4.2	100	90.1	0.8	4.9	4.2	100	91.8	0.9	4.1	3.2	100	92.7	0.8	3.3	3.1	100
Gaza Strip	93.5	0.4	3.1	3.0	100	90.9	1.8	3.6	3.7	100	93.5	0.4	2.6	3.6	100	95.0	0.2	2.2	2.6	100	94.8	0.5	1.9	2.9	100
By Area:																									
North West Bank	86.5	4.4	5.3	3.8	100	83.3	8.1	4.9	3.7	100	88.0	1.8	6.2	4.0	100	90.6	1.9	4.7	2.8	100	92.3	1.8	3.3	2.6	100
Mid. West Bank	92.9	0.4	3.3	3.4	100	90.4	0.2	3.8	5.6	100	90.7	_	4.1	5.3	100	91.3	0.6	3.8	4.2	100	91.8	0.4	3.6	4.1	100
South West Bank	90.1	0.7	5.7	3.4	100	89.7	2.1	5.0	3.2	100	92.2	0.4	4.0	3.3	100	93.3	0.1	3.8	2.8	100	94.0	0.2	3.0	2.8	100
PT Excl. Jerusalem	90.7	1.5	4.4	3.4	100	88.6	3.4	4.3	3.7	100	91.5	0.8	4.1	3.6	100	93.1	0.7	3.3	2.9	100	93.8	0.7	2.6	2.9	100
Jerusalem Gover.	94.0	0.3	2.5	3.2	100	90.1	_	3.6	6.3	100	90.2	_	3.5	6.3	100	92.9	0.1	3.4	3.5	100	91.7	0.3	4.0	4.0	100
Total	**91.1**	**1.4**	**4.2**	**3.3**	**100**	**88.8**	**3.0**	**4.2**	**4.0**	**100**	**91.3**	**0.7**	**4.0**	**4.0**	**100**	**93.1**	**0.6**	**3.4**	**2.9**	**100**	**93.6**	**0.7**	**2.7**	**3.0**	**100**

1=Go to school only 2=go to school and work 3=work only 4=other include housekeeper and idle

Source: Palestinian Central Bureau of Statistics, 2002. Labor Force Survey Database: 2000-2001. Ramallah-Palestine.

Table 6: Labor Market Dynamics for Children Between Third Quarter of 2000 and 2001 in the PT

Third Quarter 2000	Third Quarter 2001					
	School Only	School and Work	Work Only	Housekeeper	Other	Table Total
School Only	**87.3**	0.2	0.4	0.9	0.9	**89.7**
School and Work	1.6	**0.4**	0.1	–		**2.1**
Work Only	0.1	0.1	**1.7**	–	0.9	**2.8**
Housekeeper	0.1	–		**1.5**	0.2	**1.8**
Other	1.3	–	0.5	0.2	**1.7**	**3.6**
Table Total	**90.4**	**0.6**	**2.8**	**2.5**	**3.7**	**100**

Source: Palestinian Central Bureau of Statistics, 2002. Labor Force Survey Database: 2000-2001. Ramallah-Palestine.

Table 7: The Basic Changes in the Labor Force (15 years and over) Indicators in PT: 2000-2001

Indicators	Q1-00	Q2-00	Q3-00	Q4-00	Q1-01	Q2-01	Q3-01
West Bank							
Labour Force Participation Rate	42.1	43.9	45.3	42.9	41.6	41.1	41.4
Full Employment Rate	86.8	86.4	84.8	68.1	71.6	75.8	72.1
Underemployment Rate	4.3	7.1	7.7	5.6	4.5	5.2	5.2
Unemployment Rate	8.9	6.5	7.5	26.3	23.9	19.0	22.7
Employed in Agriculture	10.7	12.1	11.3	17.1	11.7	12.9	12.0
Employed in Construction	24.3	25.0	24.2	13.3	17.6	18.6	18.3
Employed in Manufacturing	15.4	15.3	16.1	14.6	16.9	15.4	14.4
Employed in Services	24.9	24.0	24.6	29.0	28.0	26.6	29.3
Elementary Occupation Workers	30.2	20.8	20.5	15.2	17.8	17.8	18.0
Craft and Related Trade Workers	23.5	24.3	25.7	18.2	20.9	21.6	20.0
Employed in Israel & Settlements	25.3	25.2	24.8	11.3	19.1	18.7	16.1
Self - Employed	19.6	19.3	19.9	24.6	22.9	25.3	26.1
Wage Employees	66.8	66.9	66.2	57.0	62.6	59.6	60.2
Unpaid Family Members	7.6	8.8	9.3	13.6	9.3	10.2	10.0
Gaza Strip							
Labour Force Participation Rate	38.2	39.5	40.1	32.0	33.4	33.1	32.1
Full Employment Rate	83.2	84.6	81.0	63.7	63.4	63.0	66.5
Underemployment Rate	1.5	1.6	3.5	2.8	2.5	2.1	1.6
Unemployment Rate	15.3	13.8	15.5	33.5	34.1	34.9	31.9
Employed in Agriculture	16.9	16.6	16.2	16.1	13.3	11.0	9.6
Employed in Construction	14.7	16.0	15.9	3.5	2.4	3.9	6.0
Employed in Manufacturing	12.1	12.5	12.3	7.5	9.4	10.0	10.0
Employed in Services	38.5	38.8	38.0	53.7	54.8	54.1	53.0
Elementary Occupation Workers	24.7	19.1	18.0	9.9	10.7	11.7	10.9
Craft and Related Trade Workers	19.7	20.2	21.7	10.5	13.0	13.3	15.2
Employed in Israel & Settlements	14.1	15.3	15.4	2.7	2.0	1.6	2.2
Self - Employed	20.0	17.1	13.6	18.7	17.7	18.5	19.6
Wage Employees	68.8	70.9	71.0	65.9	68.3	68.2	68.2
Unpaid Family Members	8.1	9.7	11.4	11.4	10.3	6.8	6.3
PT							
Labour Force Participation Rate	40.8	42.5	43.5	39.2	38.8	38.3	38.3
Full Employment Rate	85.7	85.8	83.6	66.9	69.2	72.0	70.5
Underemployment Rate	3.4	5.4	6.4	4.8	3.9	4.3	4.2
Unemployment Rate	10.9	8.8	10.0	28.3	26.9	23.7	25.3
Employed in Agriculture	12.6	13.4	12.7	16.9	12.1	12.4	11.4
Employed in Construction	21.4	22.3	21.7	10.8	13.6	14.9	15.1
Employed in Manufacturing	14.4	14.4	15.0	12.8	14.9	14.0	13.3
Employed in Services	29.0	28.6	28.6	35.2	35.1	33.6	35.5
Elementary Occupation Workers	28.6	20.4	19.8	13.7	15.9	16.2	16.1
Craft and Related Trade Workers	22.3	23.1	24.5	16.2	18.8	19.5	18.7
Employed in Israel & Settlements	21.9	22.3	22.1	9.1	14.6	14.4	12.5
Self - Employed	19.7	18.7	18.1	23.1	21.6	23.6	24.4
Wage Employees	67.4	68.1	67.6	59.3	64.1	61.8	62.3
Unpaid Family Members	7.8	9.0	9.9	13.0	9.5	9.3	9.0

Source: Palestinian Central Bureau of Statistics, 2002. Labor Force Survey Database: 2000-2001. Ramallah-Palestine.

Table 8: Children 8-17 years by Region (Probit Results)

Dependent Variable: 1=attending school, 0=other	West Bank			Gaza Strip		
	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.
age	-0.67	*	0.00045	-0.56	*	0.0005
male: 1=male, 0=female	-0.44	*	0.00177	-1.06	*	0.0024
Years of schooling for father	0.17	*	0.00027	0.15	*	0.0003
Years of schooling for mother	0.14	*	0.00028	0.33	*	0.0004
1=father is employed, 0=other	0.62	*	0.00200	0.46	*	0.0025
Number of sibling aged less than 7 years	-0.15	*	0.00078	-0.21	*	0.0009
Number of sibling aged 7-18 years	-0.15	*	0.00051	-0.04		0.0007
Number of sibling aged 19 years and over	0.03		0.00055	-0.03		0.0007
1=if the children work as paid employees	-17.21	*	0.02452	-18.06	*	0.0332
1=if the children work as unpaid family member	-4.41	*	0.00948	-6.94	*	0.0208
1=if the income less than poverty line, 0=other	-0.28		0.00192	0.08		0.0040
1=rural, 0=other	0.38	*	0.00174	-0.20		0.0056
1=refugee camp, 0=other	-0.65		0.00471	-0.04		0.0024
Log Likelihood			-1575.2			-1021.7
Number of observation			12532			8633
LR chi sq. (13)			1280.77			709.42
Prob > Chi sq.			0			0.0
Pseudo R sq.			0.289			0.2577

* Significant at 5 percent

dF/dx: the marginal effects

Table 9: Children 8-17 years Attending School by Region (Probit Results)

Dependent Variable: 1=SAGE < 100, 0=other	West Bank			Gaza Strip		
	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.
age	0.67	*	0.0007792	0.49	*	0.0005189
male: 1=male, 0=female	1.07	*	0.0041586	0.44		0.0027721
Years of schooling for father	-0.28	*	0.000654	-0.21	*	0.0004222
Years of schooling for mother	-0.44	*	0.0006819	-0.05		0.0005052
1=father is employed, 0=other	0.30		0.0043613	-1.17	*	0.0033414
Number of sibling aged less than 7 years	-0.13		0.0020487	-0.01		0.0011299
Number of sibling aged 7-18 years	0.52	*	0.0013123	0.15		0.000804
Number of sibling aged 19 years and over	-0.75	*	0.0021968	0.00		0.0012013
Number of sibling not in school	0.57	*	0.0021563	0.38	*	0.001233
1=if the children work as paid employees	-2.44		0.0124372	-0.62		0.0089685
1=if the children work as unpaid family member	-0.11		0.0100061	-0.61		0.0086382
1=if the income less than poverty line, 0=other	0.80		0.0047263	-0.58		0.0055754
1=rural, 0=other	0.72		0.0043565	1.40	*	0.009019
1=refugee camp, 0=other	0.33		0.0095109	0.60	*	0.0032619
Log Likelihood			-2717.2			-984.8
Number of observation			11987			8311
LR chi sq. (14)			339.77			246.59
Prob > Chi sq.			0			0
Pseudo R sq.			0.0588			0.1113

* Significant at 5 percent

dF/dx: the marginal effects

Table 10: Children 8-17 years by Region (Probit Results)

Dependent Variable: 1=employed, 0=other	West Bank			Gaza Strip		
	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.
age	0.66	*	0.0007	0.46	*	0.0005
male: 1=male, 0=female	8.95	*	0.0042	4.87	*	0.0037
Years of schooling for father	-0.09		0.0006	0.00		0.0004
Years of schooling for mother	-0.17	*	0.0006	0.03		0.0005
1=father is employed, 0=other	4.37	*	0.0034	1.61	*	0.0026
Number of sibling aged less than 7 years	0.69	*	0.0017	0.07		0.0011
Number of sibling aged 7-18 years	-0.15		0.0012	-0.20	*	0.0008
Number of sibling aged 19 years and over	0.18		0.0017	-0.63	*	0.0013
Number of sibling not in school	0.24		0.0017	0.73	*	0.0012
1=if the income less than poverty line, 0=other	1.30	*	0.0039	0.88	*	0.0032
1=rural, 0=other	2.65	*	0.0040	0.07		0.0063
1=refugee camp, 0=other	0.36		0.0088	-0.06		0.0029
Log Likelihood			-2803.7			-1181.9
Number of observation			12532			8633
LR chi sq. (12)			861.69			413.88
Prob > Chi sq.			0			0
Pseudo R sq.			0.1332			0.149

* Significant at 5 percent
dF/dx: the marginal effects

Table 11: Children 8-17 years Attending School by Region (Probit Results)

Dependent Variable: 1=employed, 0=other	West Bank			Gaza Strip		
	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.
age	0.48	*	0.0007	0.24	*	0.0005
male: 1=male, 0=female	8.26	*	0.0042	3.89	*	0.0035
Years of schooling for father	-0.09		0.0006	-0.03		0.0004
Years of schooling for mother	-0.15	*	0.0006	0.03		0.0005
1=father is employed, 0=other	4.09	*	0.0033	1.48	*	0.0026
Number of sibling aged less than 7 years	0.77	*	0.0017	0.14		0.0011
Number of sibling aged 7-18 years	-0.11		0.0011	-0.22	*	0.0008
Number of sibling aged 19 years and over	0.45	*	0.0017	-0.14		0.0013
Number of sibling not in school	-0.12		0.0018	0.05		0.0013
1=if the income less than poverty line, 0=other	1.64	*	0.0037	0.92	*	0.0029
1=rural, 0=other	2.90	*	0.0039	0.79		0.0078
1=refugee camp, 0=other	0.44		0.0088	0.16		0.0029
Log Likelihood			-2528.1			-961.7
Number of observation			11987			8311
LR chi sq. (12)			752.29			215.7
Prob > Chi sq.			0			0
Pseudo R sq.			0.1295			0.1008

* Significant at 5 percent
dF/dx: the marginal effects

Table 12: Children 8-17 years by Region (Probit Results)

Dependent Variable: 1=paid employed, 0=other	West Bank			Gaza Strip		
	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.
age	0.50	*	0.0005	0.25	*	0.0004
male: 1=male, 0=female	4.00	*	0.0029	2.76	*	0.0029
Years of schooling for father	0.01		0.0002	-0.03	*	0.0002
Years of schooling for mother	0.03		0.0002	-0.01		0.0002
1=father is employed, 0=other	0.08		0.0013	0.28	*	0.0010
Number of sibling aged less than 7 years	0.13	*	*0.0006*	-0.01		**0.0004**
Number of sibling aged 7-18 years	-0.10	*	*0.0004*	-0.11	*	**0.0003**
Number of sibling aged 19 years and over	-0.45	*	*0.0007*	-0.36	*	**0.0007**
Number of sibling not in school	0.41	*	*0.0007*	0.27	*	**0.0006**
1=if the income less than poverty line, 0=other	0.53	*	0.0013	0.22		**0.0012**
1=rural, 0=other	-0.27	*	0.0013	0.28		0.0029
1=refugee camp, 0=other	0.76	*	0.0038	-0.03		0.0010
Log Likelihood			-1512.9			-806.0
Number of observation			12532			8633
LR chi sq. (12)			1026.62			571.42
Prob > Chi sq.			0			0
Pseudo R sq.			0.2533			0.2617

* Significant at 5 percent

dF/dx: the marginal effects

Table 13: Children 8-17 years by Region (Probit Results)

Dependent Variable: 1=child labor (ILO def.), 0=other	West Bank			Gaza Strip		
	dF/dx (%)	t-s	Std. Err.	dF/dx (%)	t-s	Std. Err.
age	0.12	*	0.0004	0.09	*	0.0003
male: 1=male, 0=female	3.64	*	0.0026	1.58	*	0.0022
Years of schooling for father	0.03		0.0003	-0.02		0.0002
Years of schooling for mother	-0.06	*	0.0003	0.01		0.0003
1=father is employed, 0=other	1.51	*	0.0019	0.29		0.0015
Number of sibling aged less than 7 years	0.30	*	0.0009	0.06		0.0006
Number of sibling aged 7-18 years	-0.08		0.0006	-0.10	*	0.0005
Number of sibling aged 19 years and over	-0.49	*	0.0010	-0.28	*	0.0008
Number of sibling not in school	0.43	*	0.0009	0.27	*	0.0007
1=if the income less than poverty line, 0=other	0.24		0.0020	0.20		0.0021
1=rural, 0=other	0.55	*	0.0020	0.64		0.0053
1=refugee camp, 0=other	0.33		0.0047	0.22		0.0019
Log Likelihood			-1359.0			-523.4
Number of observation			12532			8633
LR chi sq. (12)			385.53			118.06
Prob > Chi sq.			0			0
Pseudo R sq.			0.1242			0.1014

* Significant at 5 percent

dF/dx: the marginal effects

Table 14: Summary of Tables 8-13: Children 8-17 years by Region (Probit Results)

Poulation:	All		Attending School		All		Attending School		All		All	
Dependent Variable:	1=attending school, 0=other		1=SAGE < 100, 0=other		1=employed, 0=other		1=employed, 0=other		1=paid employed, 0=other		1=child labor (ILO def.), 0=other	
Independent Variables	**WB**	**GS**	**WB**	**GS**	**WB**	**GS**	**WB**	**GS**	**WB**	**GS**	**WB**	**GS**
age	-	-	+	+	+	+	+	+	+	+	+	+
male: 1=male, 0=female	+	-	+	+	+	+	+	+	+	+	+	+
Years of schooling for father	-	+	-	-	-	+	-	-	+	-	+	-
Years of schooling for mother	+	+	-	-	-	+	-	+	+	-	-	+
1=father is employed, 0=other	+	+	+	-	+	+	+	+	+	+	+	+
Number of sibling aged less than 7 years	-	-	-	-	+	+	+	+	+	-	+	+
Number of sibling aged 7-18 years	-	-	+	+	-	-	-	-	-	-	-	-
Number of sibling aged 19 years and over	+	-	-	+	+	-	+	-	-	-	-	-
Number of sibling not in school			+	+	+	+	-	+	+	+	+	+
1=if the children work as paid employees	-	-	-	-								
1=if the children work as unpaid family membe	-	-	-	-								
1=if the income less than poverty line, 0=other	-	+	+	-	+	+	+	+	+	+	+	+
1=rural, 0=other	+	-	+	+	+	+	+	+	-	+	+	+
1=refugee camp, 0=other	-	-	+	+	+	-	+	+	+	-	+	+

Figures

Figure 1: The Percentage of Employed Children 10-17 years and School Attendance: 1999-2004

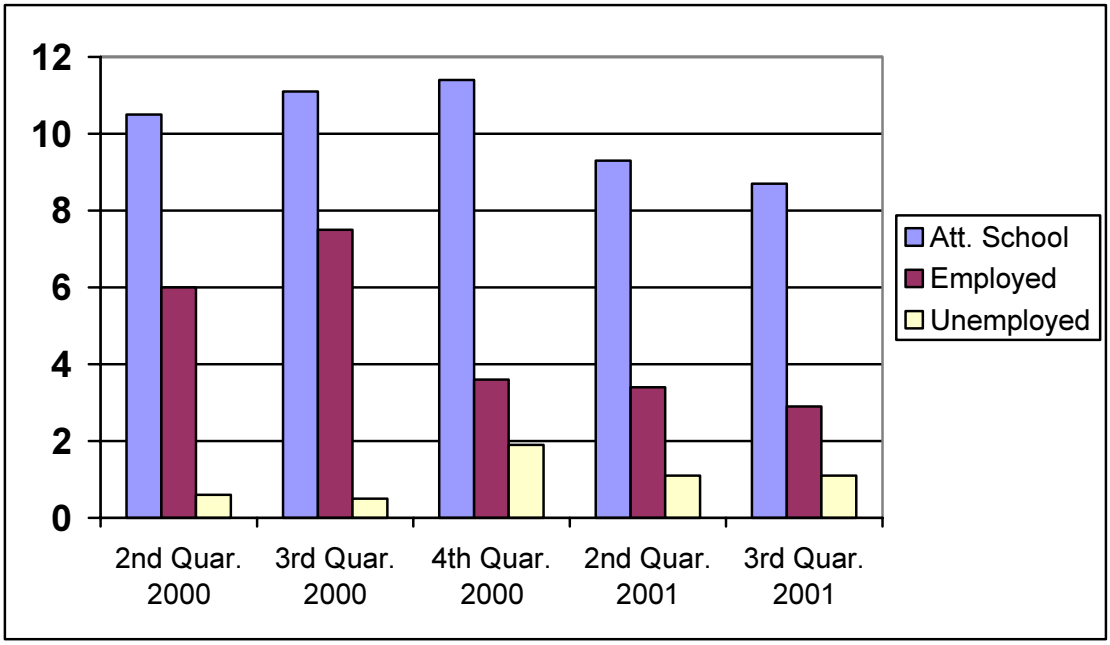
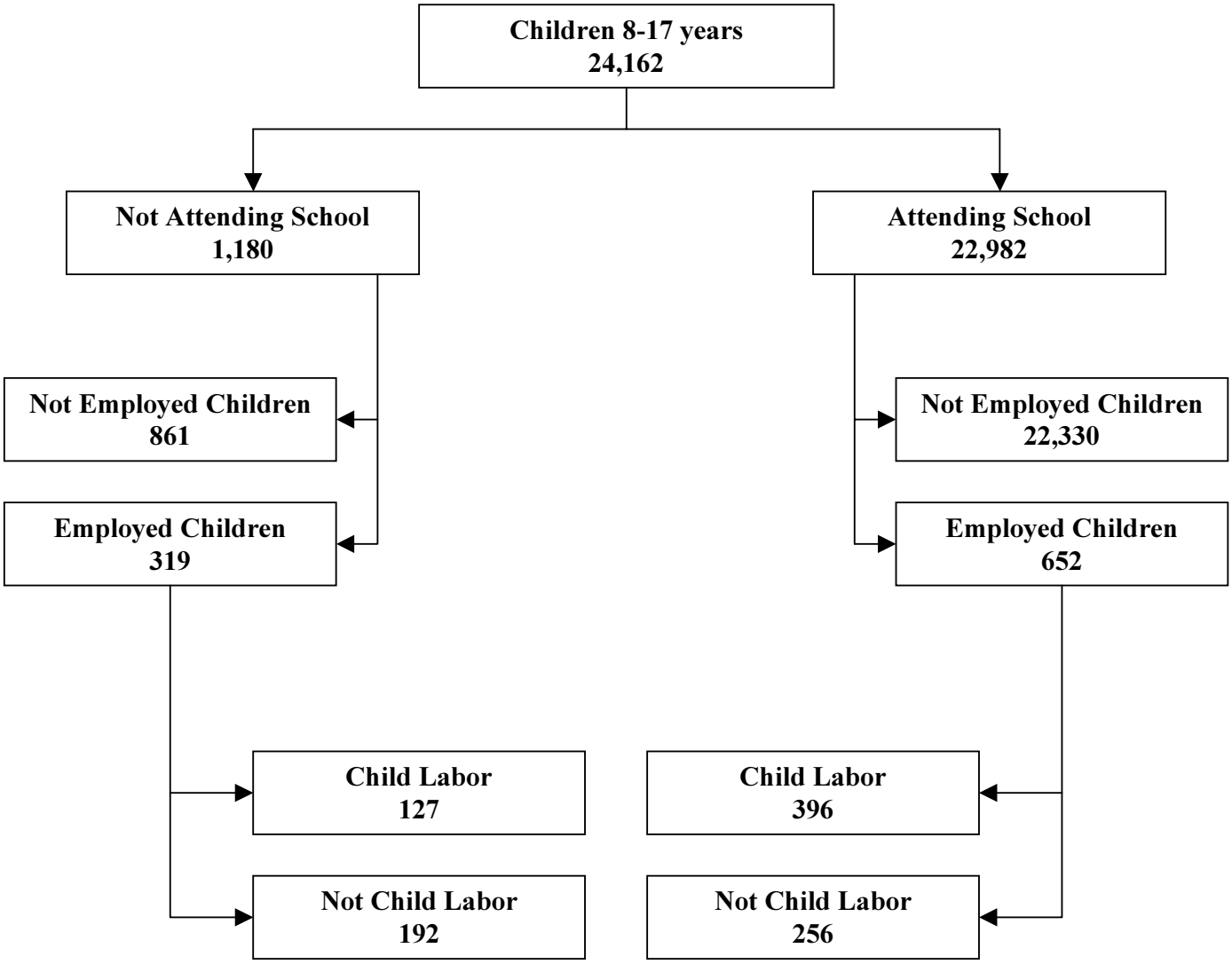


Figure 2: Sample Distribution of the Second Probit Model (Chapter five): 2004[1]



[1] Palestinian Central Bureau of Statistics: Child Labor Survey-2004

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