Factors Determining Supply of Child Labor: A Case Study of Afghanistan

Researcher

Mr. Lutfullah

Reg. No. 342-SE/MS-Eco2/F13

Supervisor

Dr. Mirajul Haq

Assistant Professor

School of Economics

**International Institute of Islamic Economics,
International Islamic University
Islamabad**
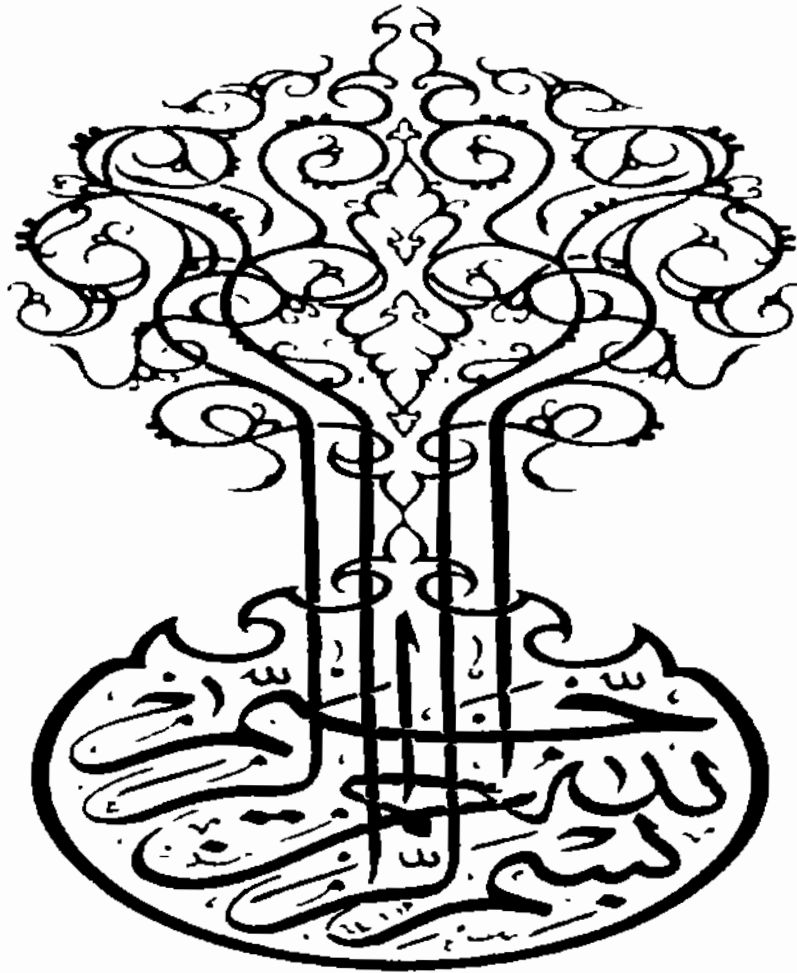
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Child Labor

Poor children - Some complaints

**Allah will exalt in degree those of you who believe and those who have
been granted knowledge.**

(Chapter 58, Verse 11)

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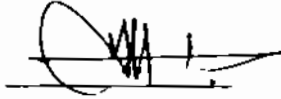
by
Lutfullah
Reg. No: 342-SE/MS-ECO2/F13

Accepted by the International Institute of Islamic Economics, International Islamic University Islamabad as partial fulfilment of the requirements for the award of degree of MS in Economics
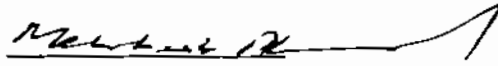
Supervisor:

(Dr Miraj-ul-Haq)
Assistant Professor, IIIE
International Islamic University, Islamabad

Internal Examiner:
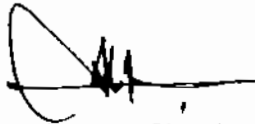
(Dr Arshad Ali Bhatti)
Assistant Professor, IIIE,
International Islamic University, Islamabad

External Examiner:

(Dr Mehboob Ahmad)
Professor, BMS,
SZABIST, Islamabad

Dr. Arshad Ali Bhatti

Head
School of Economics, IIIE
International Islamic University, Islamabad

Prof Dr Eatzaz Ahmad

Director General
International Institute of Islamic Economics,
International Islamic University Islamabad

Date of Viva Voce Exam January 12, 2017

Dedication

To

My Parents, and brothers (Hameedullah Muhammad Shah and Rafiullah Nabeel)

Declaration

I hereby declare that this thesis, neither as a whole nor as a part thereof, has been copied out from any source It is further declared that I have carried out this research by myself and have completed this thesis on the basis of my personal efforts under the guidance and help of my supervisor If any part of this thesis is proven to be copied out or earlier submitted, I shall stand by the consequences No portion of the work presented in this thesis has been submitted in support of any application for any other degree or qualification in International Islamic University or any other university or institute of learning

LUTFULLAH

Acknowledgement

I begin with the blessed name of Allah (AJ) who gave me the ability and strength to complete my MS I praise Him and glorify Him as He ought to be praised and glorified I pray for peace and blessings on all His noble messengers, especially on the last Prophet Muhammad (PBUH) who is created as a blessing for mankind as well as all the universes I am not fit to speak of his exalted glory with narrow perceptions and low imagination.

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List of Abbreviations

UNICEF	United Nations Children's Fund
UNHCR	United Nations High Commissioner for Refugees
WB	World Bank
CSO	Central Statistics Organization
ILO	International Labor Organization
NRVA	National Risk Vulnerability Assessment
UN	United Nations
CRC	Convention on the Rights of Children
UNCRC	United Nations Conventions on the Rights of Children
GDP	Gross Domestic product
AIHR	Afghan Independent Human Rights
LDC	Least Developed Country
NPP	Nangarhar Provincial Profile

Abstract

Child labor is a widespread phenomenon in the world, occurring predominantly in developing countries. Much of the recent theoretical literature has focused attention on the fact that the decision to send children to work is most likely made not by the children themselves, but by households who do so out of dire need. Poverty is considered to be the root cause of child labor. In fact, this is not true. There are myriad of other factors which are considered even bigger variables in the determination of child labor in a society.

The present study seeks to highlight the factors which cause the prevalence of child labor in the context of Afghanistan. The exercise is conducted on a primary data set involving 5-14 years old children from the six Nahias of Jalalabad, Afghanistan, using ordered probit model. The questionnaire was developed from other studies, but in the process, the characteristics of the target area were also considered.

Information was collected on family demographics, place of origin and current living status, personal information, current work history and conditions, personal behavior, health, perceptions and knowledge and literacy level on a household basis from the household head. Among other factors, the effect of household, literacy and poverty, child dependency ratio, household size, parental education and two location characteristics are quantitatively investigated and these turn out to be the biggest instrumental variables in the dynamics of child labor. It turns out that household demography, including its physical familial structure, plays a statistically significant role in the dynamics of child labor. Household poverty, on the second hand, turns out to be promotive for child labor. Increasing household literacy turns out to be negatively associated with the dissemination of child labor.

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Chapter 1

Introduction

1.1 Background of the Study

Afghanistan has passed through a difficult period in its existence since the Soviet invasion, (Kakar (1995) Since late 1970s, it has been characterized by endless war and conflicts that has destroyed the state and all its institutions This has resulted into enormous socio economic challenges, mass unemployment and consequently poverty have come to define households which is forcing child members of households to engage in informal employment so as to make ends meet, (Barnett R Rubin, 1989)

The wars, Afghanistan has experienced since the Soviet invasion of Afghanistan(1978), the civil war that followed amongst the Mujahedeen(1994), the US invasion (2001), and the war on terror have caused untold sufferings, and have created a large number of disabled, widows, orphans and refugees The wars have turned Afghanistan into a beleaguered society by robbing the able-bodied human resources and forcing children and in some cases women to take care of their households by engaging in some economic activities (Barnett R Rubin, 2000) In the aftermath of the US- led invasion of Afghanistan, the war has so far driven 683,301 indigenous population out from their lands (where they derived much of their livelihood), scattering them into cities, small town and relatively settled places where they are forced to engage in some income generating activities for their survival (UNHCR, 2015)

The persistent insecurity and sporadic violence have turned the attention of the state apparatus and relevant institutions from addressing the highly impactful socioeconomic issue to mitigating genes of the war and insurgency. The US-led intervention in the wake of September 9/11 was perceived to be the watershed moment for changing the fate of the Afghan society on many fronts, such as economic development, reconstruction, stability and security, but still, all the best wishes remain at the level of conception and translating them into implementation remains a distant dream.

According to World Bank report Matsumoto (2008), Afghanistan is the fifth youngest nation in the world, and the first in Asia (WB, 2015). Nearly 48 4 percent of its population is under the age of 15 years, whereas the labor force participation rate is reported as 49 8 percent (CSO, 2013).

The protracted conflict destroyed the existing social and economic fabrics and left the political institutions and physical infrastructures of the country in shambles. With persistent war and insecurity in the country, the problem of child labor extensively and intensively becoming more threatening. The ongoing war in Afghanistan not only impedes the socioeconomic development but also severely undermines the potential growth of human capital of the young generation and most importantly children (Barnett R Rubin, 2000).

Furthermore, conservative customs, poverty, deep rooted traditional values, lack of educational facilities and a strong culture of gender discrimination deprive over five million school-age children or one third of Afghanistan's under 18 years of population of about 14 5 million of an education, (UNICEF, 2013).

In 2012, the primary gross enrollment ratio has increased from 75 to 86 percent and also the retention rate up to grade 5 increased from 52 8 percent to 64 5 percent (UNICEF, 2013)

Given the realities on the ground, the government can hardly implement international labor laws contained in convention 138 that requires children aged 15 years to do light work and 18 years hazardous work (ILO, 1973) According to Afghanistan labor laws, the minimum age is 15 years but it is relaxed to 14 years on condition if the family approves it (Catani, Schauer, & Neuner, 2008) In Afghanistan, it is common to find children as young as (below 14 years) engaging in some sort of employment, particularly in the carpet industry, auto workshop, selling on the street , begging for money, sales worker, craft and related work, or scavenging cans and bottles from the city's putrid rubbish dump (Catani et al , 2008)

There are several factors influencing parents to let their children to work Poverty is apparently at the top of such factors prompting household decisions in that direction (Blunch & Verner, 2001) Furthermore, composition of household and norms of gender affect the extent to which labor resources are available, consequently necessitating sending children into the workplace (Fafchamps & Wahba, 2006) The remuneration given to these children is very low and sometime they are not even paid by their employers and in some instances, they are given tasks which are very dangerous and beyond their capacities (A K. Basu & Chau, 2004)

Biggeri et.al (2010) argue that the persistence of poverty in the country is forcing the children to join the labor force market which has adverse effect on their lives and on the

country at large Hence, from a politico-economic perspective, the existence of child labor does not bode well for the future stability and economic development of Afghanistan, This argument can be underpinned by the given fact that a large number of children are not going to schools to acquire skills essential to drive them out of the current predicament The chronic nature of household vulnerability in Afghanistan further exacerbates the problem of child labor, almost eight out of ten household in Afghanistan are prone to some kind of shocks i e , environmental, political, economic (NRVA, 2012)

1.2 Children's Working Conditions in Afghanistan

Like in many other war ravaged countries, the prevalence of child labor and incessant conflict in Afghanistan are not coincidental phenomenon Due to the never ending spiral of conflict and insurgency, the Afghan children are almost bracketed in the "Children of War" generation As a matter of fact, conflict has paved the way for the joint evolution of the menace of debilitating poverty, insecurity, and despair, which has consistently thumbed an alarmingly big chunk (30 percent) children in Afghanistan under the curse of child labor (UNICEF, 2011)

Despite the so many humanitarian interventions by international organizations, neither the hefty promises such as bringing economic development, justice, and the like have been translated into action and implementation, nor has any concomitant change followed for the betterment of ordinary Afghans, particularly the children By contrast, the continuation of the grim saga of instability have further exacerbated the incidence of child labor In Afghanistan, the prevalence of child labor ranges from minimum 18 to maximum 42 percent Both in magnitude and severity, the phenomenon of child labor is highly prevalent in western and southwestern parts of Afghanistan, whereas, the prevalence of child labor

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is comparatively lower in central and southeastern parts Of Afghanistan, (Guimbert et al 2008)

In short, child labor, both its magnitude and extremity are appalling facts in Afghanistan Let alone the rest of the country, there are 70000 children only in the city of Kabul scavenging for the bare survival of their own (UNICEF, 2015)

In investigating the determinants of child labor in Afghanistan, the study used primary data set obtained from survey questionnaire (see in Appendix A1) The scope of the study is limited to the six Nahias[1] of Jalalabad city The survey was conducted between June and July, 2015, the data and information was managed in excel from where it was imported into STATA14 version for empirical analysis The analysis was based on the study objectives as stated in 1 4 section

1.3 Statement of the Problem

Child labor is a problem and inherent characteristic of many developing countries In Afghanistan, it is a problem which is reaching to unmanageable level The endless cycle of war and insurgency, the collapse of the responsible institutions, and the fragile state of the economy have made survival difficult for ordinary Afghans This have forced all members of household, including children to contribute towards the livelihood and income On this note, the current study intends to investigate the specific contextual factors driving children into the labor force at tender age

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[1] Nahia is an administrative unit governed by its own municipality

1.4 Objectives of the Study

The study aims to meet the following objectives

1.4.1 General Objective

The extensive aim of the study is to analyze the factors that determines the supply of child labor in Afghanistan.

1.4.2 Specific Objectives

The specific objectives of the study are

a To examine the socioeconomic conditions of the working children in Afghanistan.

b To study the incidence of child labor in the area

c To list the factors responsible for child labor

d To suggest measures for the eradication of child labor

1.5 Research Questions

Which factors determine the supply of child labor in Afghanistan?

1.6 Significance of the Study

Afghan children constitute almost half of the population of Afghanistan The persistence of war and insurgency have rendered the pursuit of nurturing Afghan children with quality education a lost cause Extreme poverty and domestic unawareness, about the status of children in household, deprive them of education. While it may be true that the child labor in Afghanistan is economically and socially driven phenomenon, it is equally true that child labor reinforces the vicious cycle of poverty and desperation at the family and societal level Moreover, due to fragile and dysfunctional state of government, children with no

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breadwinner in the family more often get penetrated in the lines of private militias and other non-state militant organizations Keeping children's politico-economic exploitation in view, child labor inflicts unbearable cost, both in terms of insecurity and loss of potential human capital

The existing body of studies on this particular subject is highly insufficient and does not cover the issue in full length. Some attempts have been made to take the descriptive stock of the problem but no endeavor has been made to provide the full exposition of this significant issue

The existence body of literature has mostly come up with poverty as the primary reason for the creation of child labor, however, this study comes to identify the myriad of factors active behind the problem Noticeably, our study substantiates that physical infrastructure such as the unavailability of schools, proximity to schools and distance to cities are the main causes for the prevalence of child labor in Afghanistan.

Exploring this issue in a multidimensional perspective in this study will assist the concerned institutions and organizations in crafting the best strategy for the eradication of child labor and laying the foundation for some remedial work on the ground

1.7 Organization of the Study

This study has six chapters Chapter one mainly revolves around the state of the problem of child labor in Afghanistan It sheds light on how the supply side factors play their stimulating role in the exacerbation of the incidence of child labor in Afghanistan Chapter two discusses review of the existing studies on the issue in Afghanistan and other

developing countries Chapter three provides theoretical and analytical framework of the study; theories about parental characteristics, child characteristics and household characteristics which directly or indirectly affect decision about children schooling or working are presented in the first part, the second part analyzes the relevant factors and the anatomy of their interactions with the issue Chapter four constructs the methodology which comprises the model for the study and the definitions of some key terms in the study Chapter five categorically presents the output of the research and then provides a full discussion of it Chapter six concludes the study; it also provides some policy recommendations for confronting and reduction of the phenomenon of child labor in Afghanistan.

Chapter 2

Literature Review

2.1 Introduction

This chapter explores the definitions of child labor and child work presented in existing literature Besides, it also discusses child labor related theories and some important concepts that explain child labor and its presence in the present age The empirical literature that have discussed different determinants of the phenomenon of child labor in developing world, particularly in Afghanistan, also have been reviewed The presence of child labor in developing world is also discussed under a separate section, which will set the base for understanding the issue of child labor in Afghanistan.

2.2. Child and Invention of Childhood

Although international organizations, for instance, United Nations, ILO, and the like have set the definitions for Child Labor, Child, and Childhood On a conceptual level, fully acceptable understanding about child labor phenomenon is shaped by different and peculiar set of characteristics, including cultures, and values of the society Every society molds the definition of words like "Child", "Childhood", and "Child Labor" according to the social norms and values they hold, (Bhutta et al (2008)

In the Article 1 of The Convention on the Rights of the Child (CRC) (UNCRC, 1973) child is defined as 'anyone who is under the age of 18 can be considered as Child" But more than that, "Childhood" is not only the state of being a child, from a developmental perspective, a thorough and compact definition is put forward by UNICEF as follows, Childhood is meant for a child to have parental and community love and care, to play, and

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grow in strength, as well as exploring their talents, thus, in brief, it means the circumstances and quality of childhood (UNICEF, 2011)

Smith et al (2011) historically refutes the idea that children in the middle ages societies had no value or significance to the families, or no one was concerned about their sentiments

For the purpose of legal consideration, the fate of "Childhood" found a remarkable turnaround in 1784 A widespread endemic disease in a Manchester-based industry got the lives of many people, which, for all the precautionary reasons, culminated in the formation of children related legislation[2]

2.3 Definition of Child Labor

Child labor, in the sense of economics, means work done for remuneration by a person who is bellow eighteen years of age However, Convention on the Rights of Child (CRC) stands for the protection of child labor and defines the world "Child Labor" as "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" (1989, Article 32) In the general sense of understanding, child labor means "the involvement of child in activities which violate the standards put in place by the Convention on the Rights of Child (CRC) ILO (2006) sets the following criteria for the identification of the global child labor estimates

i   A child who is under 12 years and involved in economic activity for 1 or more hours/week

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[2] The Health and Morals of Apprentices Act

ii   A child who is 14 and bellow and involved in economic activity for at least 14 hours/week

iii   A child who is 17 and below and involved in economic activity for at least 43 hours per week

iv   A child 17 and under and who participates in hazardous activities for 1 or more hours/week

v   A child 17 and below who participates in an " worst form of child labor" such as trafficked children, children in bondage or forced labor, child soldiering, prostitution, pornography, illicit activities

By dissecting such a large phenomenon and analyzing it in small parts, the existing body of literature have unfolded the basic definition of child labor, and different economic theorists came up with their own conclusive identification of the words embodied in the complete definition of child labor

The word hazardous carries different connotations, human rights organizations like United Nations, and ILO interpret it in light of the protection of health standards of children. That is why an activity is hazardous if it interfere with the education of child, and potentially entails the risk of endangering the physical, mental and psychological aspects of children. In order to label a work as "Hazardous", it is important to assess the conditions and tasks in the work performed It is assumed that interference with the education of child is harmful to the welfare and future of child, but the question of harmful is embodied in whether the work interfere with the education of child

From the economic perspective, the word "harmful" implies a work which entails the opportunity cost in terms of other activities that might be of importance to the future of

child So if the return to time in the developmental activities like schooling, studying, and playing is of non-satiated nature, all works beyond these choices will entail the opportunity cost and all works are considered harmful in this case Secondly, harmful, in the long term also implies that the cost of future child welfare is greater than the gains from the child involvement in the child labor

As opposed to the distinct type of work, in economic theory, child labor is largely seen from the perspective of labor supply Child labor is considered as the phenomenon of multiple potential uses of time where families try to equalize the marginal returns to child's time across the range of activities Since the range of activities have the same marginal costs in terms of the foregone schooling, based on the observation of child's engagement in activities, the same marginal returns to different activities may be perceived by family Considering the presence of marginal returns and costs to the range of activities, theoretical studies see little for distinction between child labor and work

However, the recognition of child labor as work, the consideration of child labor as alternative to school or leisure, or whether child labor is limited by time constraint, is still the contentious debate in the sphere of existing empirical literature Thus, unlike the theoretical perspective, different strands of empirical studies present the twisted and presented the form of child labor in their own way Genicot (2005), K Basu and Tzannatos (2003) and K Basu (2006), presented a dim picture of whether child labor is distinctive from work, in their analysis, the distinction between child labor and work in unidentified From among the bulk of empirical work, only Rogers and Swinnerton (2007) conclude from their investigation on the exploitative form of child labor that child labor and work

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are distinguishable Chaudhur et al (2006) argue that child labor is indistinguishable from work, but alternative to school

2.4 Child Labor Conditions in Least Developed Countries

ILO reported in 2012 that 20 9 percent children are still held as forced labor and 18 percent exploited by private economy and enterprises (ILO 2012) According to (ILO 2013) there are 168 million children in the labor market, from which Sub-Sahara Africa continues to endure the highest incidence of 21 percent, followed by Asia Pacific 9 3 percent, Latin America and the Caribbean 8 8 percent, and Middle East and North Africa 8 4 percent Yet, in the face of the division of stances regarding the recognition and embracing the nature of child labor have made it almost impossible to feel the severity and quantify the magnitude of this problem

With the sole intention of plucking the family from starvation, the supply of children to the labor market by families in vulnerable economic conditions alongside the increased demand for children by factories led to the advent of child labor in the eighteenth century Furthermore, with the introduction of the division of labor in the production process Galbi (1997), and consequently the replacement of skilled adult labor by unskilled child labor further exacerbated the pervasiveness of child labor at that time Phasing out the journey of industrialization at the backs of children didn't lead to the end of the prevalence of child labor in the eighteenth century Great Britain. The rather fresh urge for industrialization in the developing countries with the peculiar characteristics of the quest for high economic growth, inadequate educational opportunity, the nagging presence of informal sector, and

the labor market marked by noncompliance norms coupled with the sweatshop conditions[3], the magnitude and extremity of child labor does not seem to be losing its momentum any time soon, Tuttle (2006)

In Low-income Countries, Fallon and Tzannatos (1998), and the increasing inequality in per capita GDP in the Developing Countries Swinnerton and Rogers (1999) are the two discernable reasons for the high rate of children in the work place Moreover, in a majority of low developing nations, a sizeable chunk of population still live on less than two dollars a day Flore (2004) Thus, it should not be surprising to see 25 percent of children, of age brackets five to seventeen in the developing countries still as part of the labor market. From one hand the type of activities they are involved in, and from the other hand the grim prospects of the application of the labor law and regulations, keep them under the constant threat of exploitation[4] and disenfranchisement

2.5 Review of previous Studies

This section is devoted to review prevailing literature on Child Labor related to Afghanistan

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[3] Any place where labor laws are violated, at least two

[4] Exploitation encompasses the "hard time" view, which implies low wages, long hours and harsh treatment (Nadrinelli, 1988, p 244) It may also encompass the "Neoclassical view" which states that workers are said to be exploited if they are paid less than the value of their marginal product (Nadrinelli, 1990, p 68)

2.5.1 Overview of Literature on Afghanistan

On the condition of child poverty, Biggeri et al (2010) investigated the multidimensionality of poverty which afflicts unbearable cost on the future prospects for child's future development, they conclude that there are at least ten dimensions of child poverty, with access to schooling, social exclusion, material deprivation, and health as being the most noticeable In a pioneering study, Kantor (2008) found that beyond poverty, the social and economic cost-benefit analysis of work and education dominates household's children decision-making process

The findings of Grace and Pain (2004) unveils the diversity of wealthier families in Kabul as a strategy for accumulating wealth, whereas the diversity of poor household, including children as part of it, is a way of mitigating the extreme poverty In an attempt of statistically describing the Nahia-wise child distribution and raising the awareness about the issue of child labor in Afghanistan, (AIHRC, 2006), observe that most of the children work as carpet weavers, shopkeepers, vendors, and tailors In the context of war and insecurity, Catani et al (2008), notice that children are not only feeling the brunt of the war and post-traumatic shocks but they are also highly exposed to domestic violence in Afghanistan and Sri Lanka

Recently, Kofoly (2014) investigated the role of Afghanistan conflict in premature children in the labor market, he noted the surge in violence after the US led invasion having positively affected the supply of child labor He also discovers that despite the increase in the supply of child labor due to conflict, hours of non-domestic work for girls has decreased

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2.5.2 Studies in Developing Countries

Several nations in the developing world are still characterized and plagued by civil wars and systematic violence; this leave short and long term effect on the accrual of human capital, school attendance, and physical infrastructure According to Jones and Rodgers (2011) civil wars and protracted conflicts have far reaching repercussions for millions of children, women, and men To capture the effects of violence and civil wars both in the short and long run , on these indicators, Justino et al (2013), found mixed results for the impact of violence and conflict in the former, whereas in the latter, children suffered substantial loss of human capital This finding is reinforced by Shemyakina et al (2011)

A number of studies conclude the prevalence of Poverty as being the principal factor explaining child labor globally Amin et.al (2004), K Basu and Van (1998), and Brooks-Gunn and Duncan (1997) reinstate this argument. However, based on the characterization of every society, some studies have found poverty having mixed role in the incidence of child labor, for example, some studies claim that poverty is not the sole determinant but one of the determinants that explain child labor A recent study by Sarkar (2012) suggests that declining poverty may not be the only panacea for reducing child labor

In intergenerational context, while there is no evidence empirically on the situation of transmission of poverty and economic status from one generation to another, Pryor et al (2015) conclude that in developing world the transmission of economic status across generations is quite strong, and mobility is low

The prevalence of child labor is considered as obstacle to the growth of human capital in children The studies of Emerson et al (2007) and Akabayashi and Psacharopoulos (1999)

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show that child labor is negatively related with lower level of human capital Child labor, through the channels of time constraints (because of less available time for school), and physical and psychological constraints (because of exhaustion after hours of work), inhibits the potential growth of human capital in children, (Baland and Robinson (2000) However, some economists like Psacharopoulos (1997) and Fan (2004) contend that child labor tend to be a basis for educational financing, in this case, more children would raise the level of income to be invested in the quality of children. They argue that deterring child labor may prompt children to work more and accumulate less human capital

Exploring the link between improvement in expenditure per capita and child labor, Edmonds (2005) found nonlinear relationship between the two Rogers & Swinnerton, (2003) also come up with the nonlinear relationship between per capita expenditure and child labor

Webbink et al (2015), investigated the data set of 16 African and Asian countries for the hours that children are involved in remunerated labor According to their findings, in Asia and Africa children are engaged in child work from 30-30 and 13 hours a week respectively At the back of this intensive child engagement in labor, lack of parental education, demographic and cultural factors are cited as the driving forces in Asia, while in Africa it is less important

On the same token, Delap (2001) cites from the slum areas in Bangladesh that gender norms and age subordination as the main determinants for the prevalence of child labor By contrast, Weiner (1991) argued that more than anything else, cultural norms are the main causes of child labor Bargaining position of mother is also considered an essential element

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in addressing the problem of child labor, in his inclusive study, Chang (2006) finds that higher bargaining power of mother plays a significant role in affecting the child's work sustenance. Besides, higher schooling years of mother relative to father is more influential in determining the work and school likelihoods of children. Reggio (2011), found that increasing the power to bargain is negatively associated with the reduction of work hours for daughters rather than sons.

As far as the impact of the size of family on the educational attainment of a child is concerned, the existent literature present mixed results about their relationship, for example, Åslund et al (2010) investigated the relationship between the extent of the family and attainments in education and found no effect of the household size on educational attainment in US, Norway, and Israel respectively. On the contrary, Schlosser et al (2005) found that US children in large families less likely attend private schools, whereas Goux and Maurin (2005) conclude that in France the children from large families performed worse in schools. Lee et al (2008) argue for the relation between large families and school attainment in developing world.

Moreover, Alam (2015) Bhalotra and Heady (2003), discuss the paradoxical nature of land in the debate about child labor, they argue that children from rich families with land have higher inclination to work than their counter part from poor households with little land. In a comparative study, Ray (2000) argues that families live in poverty have lower child labor in Peru, whereas the reverse occurs in the case of Pakistan.

Dumas et al (2007) found that in developing world, credit markets are imperfect, so the parents find difficulty in resource allocation over time. Moreover, G Becker and Tomes (1976) and G S Becker and Lewis (1974) discussed the quantity-quality trade off in a

household, they concluded that, surge in children's quantity rises their quality cost. Patrinos and Psacharopoulos (1997), investigated the impact of more young siblings on child labor and schooling, such type of siblings to be related to a lesser extent with schooling and surprisingly fewer children going to work in Peru. In addition, Cigno et al (2002), analyzed the determinants of child labor, and found a significantly direct effect of the children with ages ranging from 6 to 16 who were working at the time, and an inverse relationship on school allocated time. On the contrary, J Angrist et al (2010) found that having more children decreases maternal supply of labor

On the contrary, some studies argue the relation between child labor and fertility to be ambiguous, for example, Baland and Robinson (2000), found the raise in the family size to diminish work length for children. They argued that as more children raise the overall family income, it consequently reduces the labor intensity per child, but increases the demand for more children. Another line of argument is that growth in fertility raises the overall cost for children consequently necessitating additional child labor to raise more income

Concluding from the existing studies that have carried out with regards to the prevalence of child labor, income/wealth, family structure, household size employment, occupation, household composition, and family education are key variables that explain child labor

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Chapter 3

Methodology

3.1 Introduction

This chapter has three sections describing the theoretical framework and different theories regarding Child Labor and finally, the analytical framework discussing in detail the factors that affects child labor

3.2 Theoretical Framework

Keeping in view the perceived role and function of every member in the household, so far different theories have been developed, which provide plausible account for the incidence of children in the workplaces For example, Rosato and Schmitz (2006) argued that assuming household utility maximization is subject to the different sets of features, including leisure for both children and parents, the number of children, schooling of children, and the composition of goods, therefore, decision of time allocation for every member of the household differs For example, child may allocate time among market work, home production, education and leisure, similarly, parents may also allocate her time among child rearing, market work, homework and leisure However, the presence of the implicit elasticity in different factors essentially determine the behavior towards child labor (Evers et al 2008) According to this framework if father's leisure and child education are substitutes, then a rise in wage of the father will increase his leisure price, thus leading to substitution of education for children Whereas in case of child quality as being the normal good, a rise in the father's wage will lead to rise in child's education Similarly, (Akerlof, 1982) argued that mother's role in the market has a greater impact on the overall

composition and household preferences For instance, a rise in mother's earning increases the opportunity cost of having more children, so evading that cost, and consequently preserving the quality of child by investing the increments of wage in education, mothers tend to compress household size by decreasing birth.

In the same context, the wage for children increases school time opportunity cost and return to each birth. Hence, larger families may trade off quality of children for quantity, which further declines educational attainment Following are some standard Child Labor theories These include the theories of economic crisis (Ferreira, 2009), intra household externalities (Maddox, 2007), child stature (Steckel, 1995), bargaining failure (Emerson, 2002), parental non altruism (Lubatkin, 2005), quantity and quality of children (Fan, 2004)

(i) Economic Crisis

Since the economic volatility is the hallmark feature of some of the developing and less developed world, which causes the problem of child labor through different channels In this connection, Jacoby and Skoufias (1997), argue that economic downturn which has an adverse impact on family income forces parents to pull out children from educational institutions due to economic crisis Financial constraints and or lack of access to unemployment insurance may render the exit of children from school for helping families during economic crises inevitable Contrarily, the opportunity cost of child's education may decrease if in relation to future, the current employment opportunities go down due to decrease in economic activities While increase in parental earnings or household wealth is negatively related with child labor

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(ii).   Theory of Intra-Household Externalities

The fear of shifting the balance in bargaining power overwhelms in many cases the decision of a literate person to share his/her personal capital with other members in the household. Conditional on preserving the bargaining power of a literate person in the household, K. Basu et al (2001) argue that sharing the gains of literacy improves the prospects for literate person. Literate parents, particularly mother, who is able to back her children in the school work may increase the return to education. This may prevent child from joining the labor force market and hence the transfers of child will accrue some benefits to him in old age. Keeping some personal characteristics constant, a household with one literate member has significantly strong spillover effect on the earnings of an illiterate person. The effect of literate woman in the household is stronger as compared to man. On the same token, K. Basu and Foster (1998) hold the claim that literate person in the family functions as bridge for transferring the knowledge from the market to the illiterate person in the household. For instance, an illiterate person from the same household who works in the farm economy may not be well aware of how to use and execute different applications, mainly due illiteracy. In this case, the educated family member may be of big hand to him.

(iii).   Theory of Child's Stature

The prevalence of child labor is not only attributed to parental decisions or unhealthy economic circumstances, it can also be caused and aggravated by the decision of child for determining his role in the household. The decision of child to pass his earnings to the household may purely be driven by the search for increasing his role in decision making. This line of argument is evidenced by (Moehling (1995). According to his empirical

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assessment in urban America, working children enjoy larger share of resources in the household than non-working children. However, simultaneously determining child labor as well as the extent of household bargaining power is a challenging task. In the framework of collective household behavior, Pierre-André Chiappori (1992) tried to sort out the complications in this issue. On the other hand, the fraction of income earned by him/her determines the share of bargaining power, but then, income earned by a child is determined by the bargaining over his length of work.

According to K. Basu (1999), setting the bargaining power as the function of potential power swings the balance in favor of the child in household. Bargaining power driven by potential earnings raises the stature of household's youthful members due to the upswing in their productivity profile. The increased child productivity resulting from potential earnings is compounded by technological advancement in the labor market, thus, tilting the power to young members in the family. So, in the presence of the productivity edge and the convoluted interaction between earnings and bargaining, it make the children unamenable to any kind of policy intervention.

(iv). Bargaining Failure

The inability of children to pre-commit the repayment of loan provided to them in childhood while going to school breaks the negotiations between parents and children. This reduces the parents' preferences toward enhancing children's human capital. By making a compelling case in favor of this argument, Baland and Robinson (2000) hypothesized that the absence of parental altruism and the resulting breakdown of contract add to the exacerbation of children in the labor market. Contrarily, Genicot (2005) confronts this argument by arguing that the presence of parental altruism towards their children might not

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always lead to the reduction of child labor According to Genicot, even in the presence of the altruism of the parents, if parents' level of income is of subsistence nature, bargaining between parent and employer may increase child labor He further adds that for increasing the productivity of workers, employer and worker may feel incentivized to strike a bargain over resetting the wage rate higher than the previous one Employer expects wage to be used on the food to enable worker to boost their productivity But, if worker has children, keeping expenditures in line with the expectations of employer is going to be difficult, instead, worker may allocate his wage for increasing the consumption of the family Thus, based on such presumption, employer may not be able to realize the anticipated boost in worker's productivity

In order to ensure that the increments of rise in wage percolates on the right place, the employer may try to employ the parent along with children. In this way, the due share of wage will be channeled to every member of the family, and the possibility of sharing worker's productivity will vanish.

(v). The Theory of Quantity and Quality of Children

Generally, the issue of child labor is theorized as quality-quantity trade-off However, in some cases, this trade-off is emerged as spin-off from the effect of change in mother's wage on children. For example, Rosenzweig and Evenson (1977) argue that a rise in wage of mother rises the opportunity cost of raising children, while decrease in the quantity of children provides household with more resources to improve children quality Quality and quantity can be considered as substitutes if the services provided by children to their parents are defined by the quantity of children and their quality on average Since child quality is associated with household size, investment in the quality of child fundamentally

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differ across the group of children in a family Grawe (2008) supplement Rosenzweig and Evenson (1977) idea and argue that in comparison to others in the line of birth, first-born child is endowed with the advantage of being early in the small household possibly with the large pool of resources for the improvement of the first-born quality

On the difference between the quality of children across the familial hierarchy, Betts (1999) discerns three factors responsible for variation in the quality of children across siblings

a. Budget Constraint

Despite of the existence of parental wish for the equalization of educational investment across siblings, it would not be possible to do so if access to capital markets is difficult The same possibility can also be undermined if the parents are incapable of realizing the worth of borrowing relative to future income Similarly, the above formation can be biased in favor of the oldest and youngest children by keeping in view the fact that oldest child (first-born) may receive obsessive parental attention, and youngest children (last-born) may have arrived at time when their parents are at the prime of the earning ability

The argument of Birdsall (1990) is based only on the interaction of maternal work Mothers who work in the market allocate their time more squarely than those who work in homes If a mother is supposed to reduce the number of market work hours due to maternal care for the number of increased children, it may also result in lowering her income This negatively affected household income because of the reduction in work hours may incentivize the mother to let older children work rather than to go to school Alternatively, a family may target the income of older children for the relocation of mother's time in her

maternal obligations Thus, contrary to the above argument, in this case, the first-born child may be expected to join the market earlier than the subsequent children.

Given these constraints, the level of expenditures on the last and first born children will be higher than the siblings in between for two reasons First, despite the presence of liquidity constraint in the family, the prospects for improvement in the quality of first-born child is good, considering the small size of the household On the same token, last-born child of a higher quality status can be reasonably justified by the resultant relaxation of household budget constraint due to the entrance of first-born and in between siblings into the labor market (Morris (1999)

b. Returns to Scale

Investment in human capital does not vary only because of the different levels of individual abilities in a single family Relaxing the assumption of constant return to scale, Chernichovsky (1985) considered the fact that children in household may belong to different age brackets which can therefore be assigned with different tasks and may resultantly find various rate of return to scale In addition, He argued that children of a certain age cohort may be assigned with household work, whereas some others may be sent to market for acquiring human capital

In a similar vein, Knaul et al (2001) hypothesized that if all children are sent to school, this might expose the family income shocks, therefore, it will prompt the parents to diversify their investment in children. Thus, some children may be directed to the task of acquiring skills, which can financially guard the family against the possible income shocks

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c. Biological Factor

Sometimes, biological considerations, such as genetic endowments and the ability of physical growth further play a role in defining parents' decision regarding their children. For example, the weight of first-born child especially to an older woman is lower as compared to children in the middle. So, children who are born in the middle may have more potential to adopt human capital as compared to the first-born. Besides, gender may also be a crucial factor in evaluating child potential. Using a biology-based argument, Ejrnæs and Portner (2004) analyzed human capital investment in the perspective of birth order. They assume that the fertility decision of parents is based on a sequential process, after having one child, parents decide to conceive another child only by considering the genetic endowment and observing the outcome of the first child. In this whole reproduction process, maximization of human capital index in their children is the objective function. As a result, if parents produce one child with higher genetic attributes, they will reduce the rate or stop the reproduction of subsequent children, and spend the resources disproportionately on that last child.

(vi). The Theory of Non-Transferability of Assets

Parental decisions regarding their children hinge on the conditions of the asset markets. If such markets are vibrant enough to ensure the transferability of assets between children and parents, then parents may make efficient decisions regarding children. This can only be realized if parents are altruistic enough to economically fortify their children by leaving a bequest, or if children intend to support their parents during retirement. However, by considering the role of child labor in future productivity of children, Bommier and Dubois (2004) argued that even if the decision of child work is driven by parental altruism, if the

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child labor causes the reduction in the productivity and thus income of children in the future, transfer of income to parents in the future may be reduced as a punishment to them

(vii). Child as Tool for Insurance

Perverse to the theory of quality-quantity tradeoff, in this case the market value can maximized by investing in children's quantity and quality at the same time In underdeveloped financial markets, capitalizing on land in the portfolio of assets may be a lucrative move In the backdrop of this argument, if the return on land is greater than the return on education, the quest for maximization of wealth may prompt the family for having more children Besides, if parents cannot cover the entire family with insurance, economic protection may urge parents to have more children Portner (2001) Similarly, parents may expect an instrumental role form their children in case the land tenure is volatile and uncertain De Vany and Sanchez (1979)

Using children for the purpose of insurance can result in several ramifications As it is clear that reducing uncertainty requires some sacrifice from the income Families with more number of people may struggle with the resource allocation for the investment on children's human capital Thus, it will force the early entry of children into the labor market Therefore, using children for the stability of income will exacerbate child labor and negative income shocks in a positively correlated way

3.3 Analytical Framework

Given the fact that child related decisions in a certain context are affected by many factors, distinctive to the household in general, it is conceivably correct to conclude that only a single set of factors cannot explain the existence of children in workplace To portray the true picture of the prevalence of child labor, especially in countries like Afghanistan, where still the most primary economic and social characteristic are at its worst, we need to highlight and analyze the most relevant factors for designing effective policies and thereby addressing child labor

Figure 3.1: Analytical Framework

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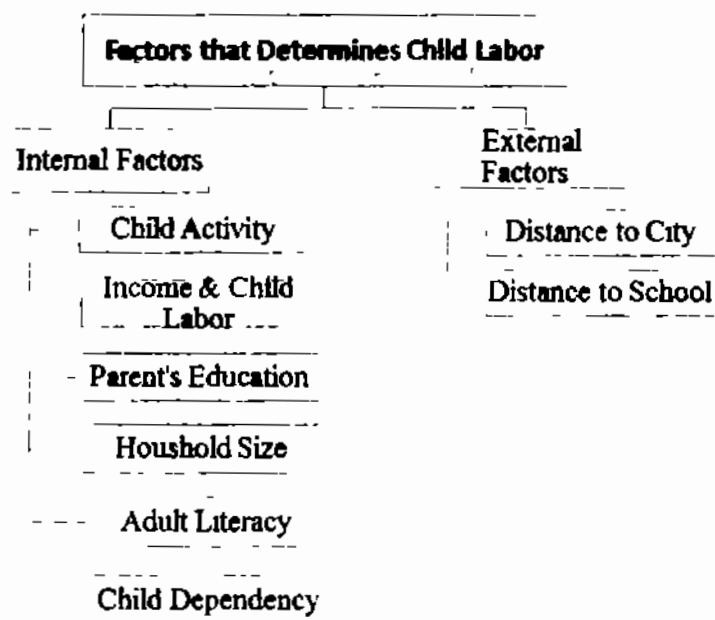
3.3.1 Internal Factors

These factors are household related and define the whole spectrum of the household More specifically, these factors are purely attributable to household and determine whether children should go to school or join the labor market.

i.   Child Activity

For analytical reason, the word child activity categorically implies schooling, work and schooling, work only, and not working not schooling

ii.   Income and Child Labor

Among other factors, income is considered one of the most distinctive factors encouraging the penetration of children into the labor market Increase in income puts the whole family at financial ease by leaving the parents of children with pecuniary strength. This helps them allocate more resources to the school enrollment of their children instead The work of Dehejia and Gatti (2002) substantiates the whole argument about the impact of increase in income on children They argued that in 1995 the alarming 34% prevalence of child labor occurred in the countries which are in the lower quintile of GDP per capita, whereas the meager 2 3% child labor incidence occurred in countries located in the higher of GDP per capita

However, the opposite may also occur, for example, Rogers and Swinnerton (2003) maintain that in the presence of altruism, child labor increases if rise in parental income leads to the elimination of transfer from the child to parents

iii.   Parents' Education

Education of parents is paramount in shaping children's future If parents are equipped with education or human capital, then they tend to have higher income, therefore, increasing the likelihood of sending their children to school Emerson and Souza (2003) In developing countries, an educated adult annually earns ten percent more than an uneducated adult, this comparative edge of education further facilitates parents' decision to send children to learning institutions Boyden and Levison (2000)

iv.   Adult Literacy

Adult literacy rate is positively related with the literacy of a child and inversely linked with child labor Raju (1989) Adult literacy raises the possibility of adult being hired in the market for labor, which enables them to educate children

v.   Household Size

Studies on household dynamics suggests that its size has a significant function in crafting the decision about the status of children and their educational attainments One of the most appealing argument against this backdrop is that larger households usually find it difficult to educate children due to less per capita resources

vi.   Child Age

Poor families usually supply children to the labor market whose age is higher as compared to other children in the family Likewise, businesses in the labor market attract children having same characteristic Cockburn (2001) From economic perspective, the reward and productivity of older children may be higher than the smaller ones, thus, higher reward

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because of age difference may tempt the family to send older children to work and higher productivity motivates their employment in the labor market.

vii.   Child Dependency Ratio

In the Developing countries, the ratio of children overwhelms the ratio of young people. The balance of age cohort is tilted towards children, thus, fewer working age individuals in relation to children render the family susceptible to income shocks. Because in such case, per unit expenditure of children increases, that in turn increase in child labor.

3.3.2 Contextual (External) Factors

Contextual factors are at the communal level, such factors shapes the environmental and physical outlook of a certain geographic area. These include the overall condition of existing physical and educational infrastructure, the availability of electricity, water sanitation, and so forth. These external factors have profound effect on the incidence of child in the labor-force.

i   Distance to School

School proximity is yet another factor explaining the occurrence of child labor in the least developed countries. Given some of the contextual concerns, resolving to let children to learn in schools by parents is sometimes undermined by hesitation. In rural areas, due to security concerns, parents squarely denies sending their children to school. Alternatively, children find their way to the labor market.

ii. Distance to City

Distance to urban centers intensifies the incidence of child labor but not for the same reason provided by Fafchamps and Shilpi (2003) In their view, close proximity to city enhances the degree of marketization which resultantly fascinates the children to work for wages or avail business opportunities Contextually speaking, price variations across the whole distance under consideration turns down the "marketization" argument The more an area gravitates away from the urban center, the more the cost of some basic necessities like education/educational centers, and food items increases, rendering it impossible for parents to afford taking their children to learning centers, consequently contributing to higher rate of children flooding into the labor market

iii. Availability of School

It is difficult for low income families to afford private schooling for their children, therefore, a distinction needs to be made between public and private school The virtual absence of public schools in the locality prompts the parents to let children in family businesses or alternatively send them to the labor market Thus, in area where the schooling service is absent, the problem of child labor is more visible

3.4 Summary

The internal factors of household and the contextual factors of a locality comes into effect when the family, especially the parents of the child intend to formulate decision regarding the role of children in the household Household income, size, parental education, adult literacy, child dependency ratio, and the age of child are attributed to family and paly its role in the formation of decision at the household level, whereas, distance to school or city

and school availability are the external factors, which characterize the locality and, hence affect household decision regarding working and education of children

3.5 Empirical Framework

To rightly identify and accurately uproot the problem of children in the labor market, the existing studies on household microeconomics consider different dynamics related to household Economists put certain assumptions to model econometrically the composition/decomposition of household decision. For example, Manser et al (1980) construct a bargaining power model which solely focuses on how different agents in the household can tackle the problem of equilibrium selection. In this model, the main idea is how the household can reach to a pareto-optimal understanding in making decision. Within household, gender role happens under intense debate in labor economics For separation of gender in public and private sphere of life, (Ulph & Ulph, 1988) extend the discussion of household decision by introducing separate sphere model They have analyzed and incorporate the distinctive traits of men and women and suggested some division of roles for them in the household

As every household member tries to maximize their utility, yet they are interdependent because of the emotional attachment and the presence of public good This interdependence ensures the cooperative way of dealing and the likelihood of long term interaction between the family members In this context, (Chen & Woolley, 2001) argue that the inevitability of repeated interactions among family members leads to the evolution of a cooperative environment that results in the prospective outcome form the best understood decision making to everyone By contrast, non-cooperative bargaining models Ulph et al (1988)

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take the issue of bargaining over the household decision in a self-centric way This model assumes that each member of the family maximizes his/her wellbeing by considering the wellbeing of others as given.

(Lopez-Calva, 2002) incorporate the role of social stigma and behavioral standards in the investigation of children in the labor-force He analyzes the influence of social norms on the decision of parents with regards the education and work prospects of children. In the social stigma model, the decision of father to let children to work rather than study stigmatizes him. This subsequently reduces his welfare This model is further developed in the studies of Schlicht et al (1987))

In their work the whole debate revolves around the formulation of social stigma and balancing supply and demand in the labor market for children as well as adult They assume that the degree of stigmatization will be lower in any society if it is marked by a wide prevalence of child labor It is because the society is used to tolerating the presence of child labor

Chiappori et al (1992) developed a household labor supply collective model in which, individuals are characterized by their preferences, with household decision are assumed pareto efficient This model is premised household welfare function assumption comprising of the weighted sum of private utility functions

Unitary household model this assumes all members to have similar preferences or alternatively the view that a member decides for everyone Thus, intra-household resource allocation and the influence of intra-household bargaining power distribution on such allocation, does not come in play

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In this study the decision of parent regarding the allocation of their children's time is based on optimization in several activities including among others only (i) schooling (ii) working, (iii) a mixture of both (iv) neither of the two

3.5.1 Sequential Probit Model

The current model treats each of the four decisions in terms of sequence/order of stages For each alternative, the set of explanatory variables can be adjusted The number of outcomes in the sequential probit model depends upon the number of categories it contains Initially, a variant of our model – the univariate Probit is used to estimate the coefficients with a dependent variable indicating as to whether the child only goes to school or otherwise using the rest of the sample In second stage, estimates represents whether child is engaged jointly in schooling and work, or other ways, using smaller samples singling observations of respondents who are schooling only The third step computes those coefficients of dependent variable specifying children who working only or other respect are utilizing new smaller sample eliminating observations of respondents who are schooling or doing a combination of studying and working concurrently The use of the current estimation technique without doubt assumes household decision order process to be sequential Sequentially, household decisions regarding children typically begins with children attending schools, followed by studying and working and finally working only

The model the current study is using has some advantages For instance, unlike the assumption of independent alternatives in the case of simultaneous decision making model, sequential decision making model is free from that assumption Since options are brought in one after another, with the possibility of adjusting the explanatory vector of each option

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set. Thus sequential approach is more appropriate for estimations with perfect option preference ordering Keeping in view the nature of dependent variable, the current work analyzes the factors influencing supply of children into the labor market as a sequential process of making decision. Hence, lead to the following four choices

P_1 = Probability of Schooling and not working

P_2 = Probability of schooling and working

P_3 = Probability of not schooling but working

P_4 = Probability of not schooling and working

In our model, the probabilities of these choices are determined as illustrated below

$$P1 = f(a_1 X) \tag{$\imath$}$$

$$P2 = [1 - f(a_1 X)] f(a_2 X) \tag{$\imath\imath$}$$

$$P3 = [1 - f(a_1 X)][1 - f(a_2 X)] f(a_3 X) \tag{$\imath\imath\imath$}$$

$$P4 = [1 - f(a_1 X)][1 - f(a_2 X)][1 - f(a_3 X)] f(a_4 X) \tag{$\imath v$}$$

Where, a_1, a_2, a_3 and a_4 are variables which are dichotomous representing respectively whether the child is schooling or not, mixes both schooling with working or not, working or not, and demanded in home-caring or not The f represents the normal standard distribution function, while b_1, b_2 and b_3 are the model vector parameters X is the explanatory variables vector Parameters a_1 are estimated over the entire sample Parameters a_2 are estimated over the sample of children excluding those who go to school only Parameters a_3 are estimated over the sample of children excluding those who go to school only, and those who go to school and work Parameter a_4 estimates all the remaining

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3.6 Definition and Construction of Variables

3.6.1 Dependent variables

The dependent variable in this study is categorical, which is comprised of school only, work only, school and work, neither working nor schooling

Child Activity (CHA_i)

The study treats four activities as categorical dependent variables in methodology These categorical dependent variables are schooling only, mixture of schooling with working, working only, and homework/ neither working nor schooling Each of them is described under,

i   **School Only**

Children in this category are the ones who only allocate their time to school This type of children are not part of the family income earning enterprise

ii   **School and Work Activity**

This category represents children who allocate their time between school and work for remuneration.

iii   **Work Only**

These children only work for wage earning and may be financially contributing to their families It is also possible for this type of children to work only at home

iv.   No School No Work

Age factor or any other relevant factor may keep such children from either working for wage or schooling Both, International Labor Organization and the United Nations have set the universal definitions for child labor In its convention of ILO (1973), fixes the age of eighteen as the legal minimum children to engage in hazardous work, whereas fifteen years is set for doing light work Article 32 of the Convention on the Rights of Children, United Nations have inclusively state that anything which interferes with child's education or is hazardous and impedes the social, physical, in addition to the mental development of children, are reflected as "Child Labor" Due to the weak social contexts, the universality of those definitions has however been compromised in developing countries Like many other nations in developing world, Afghanistan also molds the definition set by ILO for its own context In Afghanistan, "child labor" implies paid or unpaid work which is done by a child under 14, a child at the age of 13 can it also implies hazardous work done by a child between the age of 15 and 18

3.6.2 Independent Variables
Household Income (HHI_t)

It is the combined income of household members who are fourteen years and/or above Most of the existing studies considered income as the key determinant of child's time allocation In other words, it determines whether should go to school or be part of the labor force It mainly comprises of salaries, retirement income and wages

Father Income (FAI_t)

Unlike household income, father income variable looks at the income of the male household head or bread winner of the family It is one of the most important variables that

has been used in child labor studies For instance, (Ray, 2000b), used it in his empirical studies on child labor in Pakistan and Peru, where it was concluded that the higher the income of father, the less the probability of a child participating in labor In Afghan culture, father income could imply income of male heads of father as traditionally, a father lives a long his married sons, combing incomes and sharing expenses Thus, the extent to which male heads has a stable and reasonable income, children from such families are likely not to take on jobs in their pre-mature ages, ceteris paribus

ASSET $(ASSET_i)$

It is an item or property with economic value which belongs to the household It is not the primary source of income, however, it plays a supplementary role in strengthening the level of household or father income

Household Expenditure $(HHEXP_i)$

Household expenditure is the most important part of the household overall demand It is broken down into several categories such as the amount paid for food consumed in the household, fuel, transport, and clothing

Child Dependency Ratio $(CDRATIO_i)$

This ratio can be derived from the number of children divided by number of those member of the family who are part of the labor force Increase in the dependency ratio raises the burden on the operational part of population to maintain the upbringing of the children

Child Age ($CAGE_i$)

Table 3 1 depicts the full age scale of child age and shows when a child is allowed/ not allowed to work Between the ages of 5-15, a child can undertake neither kind of activity, that is, Light work, Regular work and Hazardous work But between the ages of 12-14, the child allowed to do light work if the labor law of a country allow him to do it Children between 15-17 years of age can perform light work and regular work, however, they are barred from hazardous work, which can lead to physical or psychological problems

3.1 Age and Type of Labor Allowed in the definition of Child Labor

Age	Light Work	Regular Work	Hazardous Work
5 to 11	X	X	X
12 to 14	Δ^5	X	X
15 to 17	O	O	X
Source ILO, 2005			

Parental Education

The level of education of parents is an important and reliable variable in estimating child labor It is expected that the level of education of the parents reduces the chances of children participating in child labor Empirical findings however is inconclusive regarding the impact of parental education on child labor For example S Bhalotra and C Heady (2000) in Ghana and Pakistan, Ravallion and Wodon (2000) in Bangladesh, Sasaki and

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[5] Conditional on the permission of national labor law

Temesgen (1999) in Peru and Hussain and Maskus (2003) in a dozen of countries found father education to result into less child labor participation. On contrary, Liu (1998), found father education to having no effect on child labor It has been consistently established however that a mother education reduces child labor, for instance, S R Bhalotra and C Heady (2000) and Ilahi (2001) In the current study, we are examining both father and mother education impact on child labor with symbols $FEDU_i$ and $MEDU_i$ respectively

Household Size ($HHSIZE_i$)

Size of household measured by the overall number of male, female, adult and children individuals in the household Holding controllable variables constant, there appears to be a positive relationship between the size of household and child labor (Cochrane, 1990)

Proximity to City (PTC_i)

City proximity is the numerical description of how close a household dis located from the main city (Jalalabad) The proximity of every household to the city of Jalalabad is captured by distance in terms of (km) between household location and the city

Proximity to School (PTS_i)

School proximity shows the distance between every household location and the available school in the respective Nahia

Number of Literates $(NLIT_i)$

Afghanistan law defines literacy as the attainment of basic skills of reading and writing Adult literacy rate is the percentage of people ages 15 and above, who can read a newspaper and write a simple letter, in any language. In the present study, adult literate is defined as those who have completed at least five years of formal education.

3.7 Data and Data Sources

This section describes and presents the data

3.7.1 The Nature and Source of Data

The Data used in the study is primary in nature and obtained by administering survey questionnaires in the six Nahias of the main city of Jalalabad (Afghanistan)

3.7.2 Data Collection

The Data for the study was collected through surveys from the six Nahias of city of Jalalabad in Afghanistan. The process involved visiting potential respondents in their Nahias and Children in their places of Work and Schools

3.7.3 Data Sample

In absence of general census data in the country in general and Jalalabad city in particular, we divided our study population on the basis of multistage cluster designs We chose this design because it is very suitable in situations where we have less information on individual units but more high information on population aggregations We designed six clusters out of the six Nahias, which acted as the sampling points Within the Nahias, we identified

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households with children to participate in the survey based on our study objectives, and within a particular household in most cases, the children were traced in their work places on streets, workshops, farms and brick making factories Due to the cultural traditions, the study employed twelve interviewers, two from each Nahia In total, we randomly administered questionnaires to an estimated sample of 600 Respondents, equaling to roughly 100 in each Nahia

3.8 Data Management and Analysis

The Data collected was managed, edited, and processed in Microsoft excel to get rid of errors and duplication. The processed data was later analyzed in Stata software

3.8.1 The Questionnaire

For obtaining the desired information, a well-structured research instrument (Questionnaire)[6] was designed The questionnaire in divided into five distinct sections The first section collects general information about the household In the second section we include some relevant questions so that to grasp some understanding about community characteristics Third section was designed to extract the information about household characteristics mentioned in the study Parental characteristics like parental income, employment and education constitute section number four Fifth section deals with child characteristics The total sample size of 600 households has been collected from the six Nahis of Jalalabad (Afghanistan. The data was collected from the field and coded into variables to determine the factors of Child Labor The dependent variable is four categories of child (child activity), therefore, after gathering the information, the required data was

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[6] See Appendix 3

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organized, summarized and aligned in line with the stated study's objectives There was adjustment of data to suit the model

3.8.2 Geographic and Demographic Structure of Jalalabad

The city of Jalalabad is situated in Eastern Afghanistan and the fourth largest city in terms of population. From the entire twelve Nahias around the city of Jalalabad, only six Nahis are selected for this study There are no official figures and data to suggest the social development of some main indicators, however, based on personal observation of the area, one can say that the area is relatively in better condition.

Nangarhar's literacy rate is 29 percent lower than the overall national rate of 38 2 percent. Gender-wise, males in Jalalabad are more literate than female, 41 and 18 2 percent[7], respectively The recent escalation in war in the eastern part of the country has caused the closure of some schools

In the area under consideration, households are engaged in farming and government employment opportunities, but most families pursue informal employment opportunities like daily work. In the main city of Jalalabad, the kind of household occupations range from government jobs private businesses In short, the target area encompasses every class of the society

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[7] Nangarhar Provincial Profile, 2015, UNICEF

3.9 Descriptive Analysis

Table 3 2 reports the summary statistics of all the variables under consideration Categorical variable functions as the dependent variable, which comprised of School only, School & work combined, work only and neither work nor school 1 15 standard deviation is reported for child activity We have a list of child labor determinants as explanatory variables Considering the low standard deviations for almost every variable, this table safely depicts of the absence of the problem of dispersion in the data

Table 3.2 Summary Statistics of Variables under Consideration

Variable	Obs	Mean	Median	Standard Dev	Maximum	Minimum
Activity	600	2 90	3 00	1 15	4	1 00
HHI_i	600	10 0	9 66	0 95	12 61	8 06
FAI_i	600	9 87	9 79	1 03	12 61	7 60
$ASSET_i$	600	1 35	1 00	0 47	2 00	1 00
$HHEXP_i$	600	9 98	9 79	0 83	13 52	8 51
$FEDU_i$	600	2 10	1 00	1 70	5 00	0 00
$MEDU_i$	600	1 21	1 00	0 80	5 00	0 00
$NLIT_i$	600	1 23	1 23	1 35	5 00	0 00
$HHSIZE_i$	600	8 08	8 00	1 91	13 00	4 00
$CDRATIO_i$	600	1 79	1 50	1 00	6 00	3 00
$CAGE_i$	600	8 50	7 40	5 23	14 00	9 00
$P2S_i$	600	2 57	3 00	0 77	4 00	1 00
$P2C_i$	600	13 35	9 00	10 96	40 00	2 00

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3.10 Correlation Analysis

Table 3 4 shows the correlation among variables in the study Our dependent variable Child Activity (CHA_t) has high correlation of almost 40% with household income, father income, household expenditure, father education, mother education and household size respectively Father income and expenditure has the highest correlation of 84% Moreover, parent's education have the highest correlation of 62% with number of literates in the family

Table 3.3 Correlation Analysis

Variable	(CHA_t)	HHI_t	FAI_t	$ASSET_t$	$HHEXP_t$	$FEDU_t$	$MEDU_t$	$NLIT_t$	$HHSIZE_t$	$CDRATIO_t$	$CAGE_t$	PTS_t	$P2C_t$
(CHA_t)	1												
HHI_t	0 438	1											
FAI_t	0 457	0 907	1										
$ASSET_t$	0 215	0 514	-0 530	1									
$HHEXP_t$	-0 422	0 935	0 849	-0 451	1								
$FEDU_t$	0 433	0 562	0 558	-0 263	0 518	1							
$MEDU_t$	0 451	0 265	0 224	-0 125	0 188	0 457	1						
$NLIT_t$	0 430	0 651	0 602	-0 367	0 623	0 635	0 460	1					
$HHSIZE_t$	-0 430	0 045	0 054	-0 142	0 091	-0 103	-0 070	0 170	1				
$CDRATIO_t$	-0 240	-0 378	-0 372	0 208	-0 339	-0 279	-0 289	-0 531	-0 149	1			
$CAGE_t$	-0 040	-0 011	-0 028	-0 010	-0 027	-0 077	-0 024	-0 022	0 020	0 003	1		
$P2S_t$	0 128	0 102	0 074	0 170	0 105	0 118	-0 001	0 125	-0 040	-0 025	-0 024	1	
$P2C_t$	0 310	-0 190	-0 199	-0 151	-0 230	-0 274	-0 103	-0 224	0 057	0 153	-0 003	-0 409	1

3.11 Preliminary Data Analysis

This analysis is vital in that it provides a clue of the findings of the study

Child activity ratio

Prior analysis of this ratio is presented in Figure 3 1 According to this Figure, Child labor is part and parcel of Afghanistan active work force Out of the total sample size of 600, 289 (48 17%) responded that responded that they loved studying only while a sizable number 171 (28 5%) enjoyed working only 58 (8 8%) combined studying and working, while 87(14 5%) were neither schooling nor working Such findings have much to say about the plight of children in the country A significant percentage 28 5 are very comfortable to work at a premature age without any need for schooling, while another worrying proportion, 8 83 are doubling as learners and workers, bringing the number of child laborers to 37 33% (28 5 + 8 83)

Figure 3.1
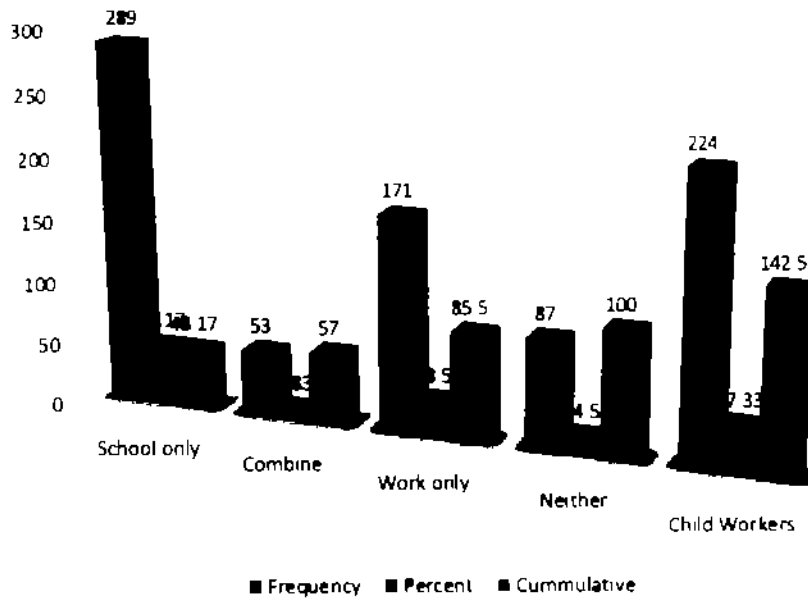
Child Gender Ratio

In terms of the gender of respondents, an overwhelming majority were male, that is, 87 17% of the total respondents were male children while 17 83% were female

Figure 3.2

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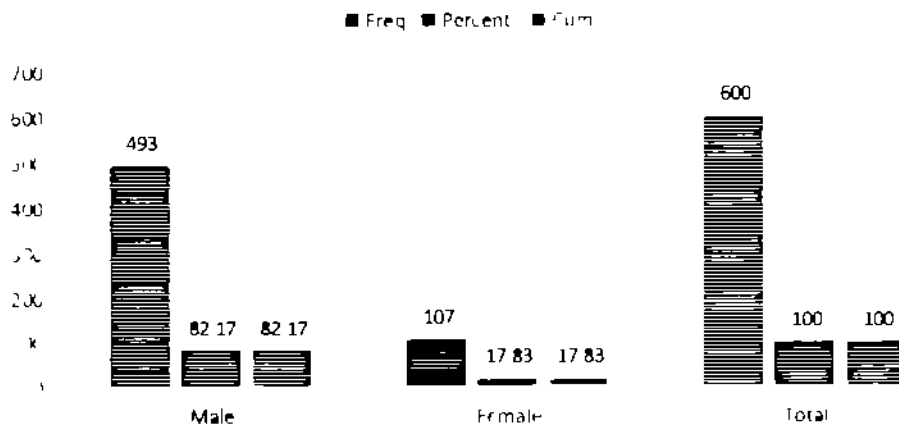
This is not surprising given the given the conservative nature of the country, where female are typically out of Public life The set of observations in this study is highly dominated by male respondents to survey Conservatism and sensitivities to the education of women in Afghanistan is a deep seated phenomenon in the culture and society Given the extreme nature of poverty and backward status of the economy, the curse of child labor is further exacerbated by not letting the women to realize their human capital so that to play an equally constructive role in the eradication of child labor

Reasons for not attending School

Not attending school has a great bearing on the type of employment and the timing of employment (age) of an individual The children's responses to not being in position to attend schools are presented in Figure 3 3

Figure 3.3
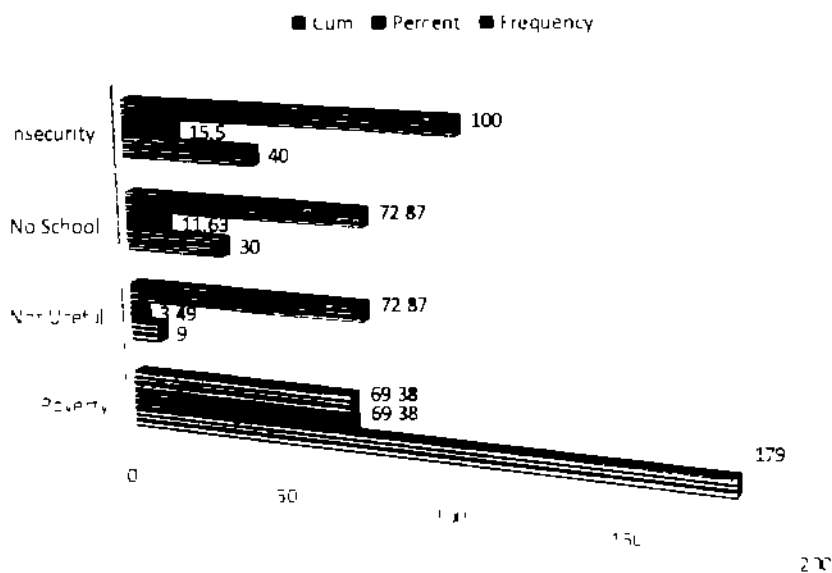
According to this Figure, extreme poverty plays a peculiar role in not attending school and henceforth joining the labor-force at a premature age In the Figure, 69 38% cited poverty as the single most hurdle in their education. The Figure, however, reveals others factors peculiar to Afghanistan like insecurity which has been a common phenomenon for almost 4 decades estimated at 15 5%, a factor which probably has reinforced another factor lack of schools (11 63%) and given birth to yet another challenge of an approximated 3 49% children who view education as useless life and economic stability are insecure due to prolonged insecurity For example, insecurity, which is a pertinent point in the discussion of child related issue in Afghanistan, forces some families to withdraw their children from schools Likewise, lack of schools and the perception about education also play a determining role in decision regarding children.

The overall picture of Figure 3 3 is that people are too poor and given the insecurity, all that is needed is roti for them to live after all, they might not be there tomorrow to enjoy the fruits of education due to a gun, or artillery, or suicide or drone attack.

Child Occupations

Children who are condemned to work traverse in a number of occupation, some of which are detrimental to their well-being as children, a number of them presented in Figure 3 5

Figure 3.4
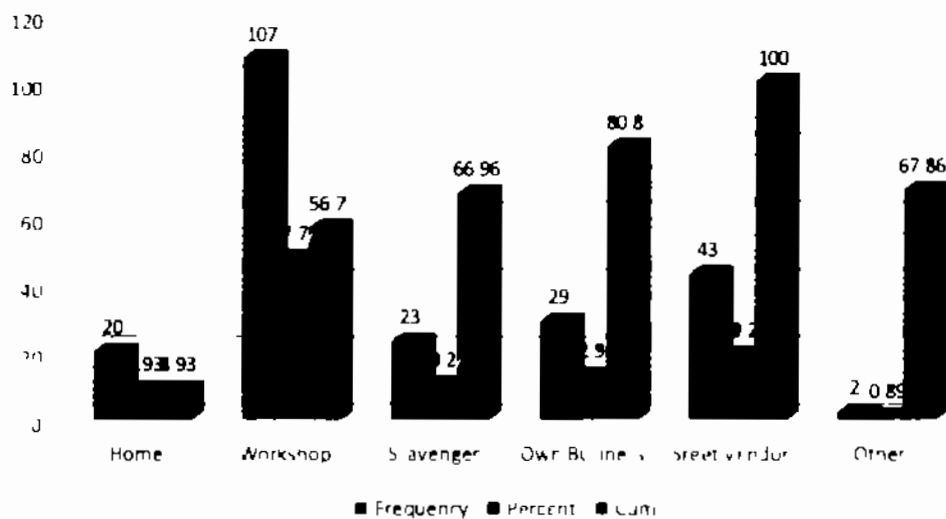
In the Figure, 47 77% of Child laborers work in workshops, 19 2% are street vendors, 12 95 own their businesses, 10 27 are scavenger and 8 93 are engaged at home The large proportion of child laborers in workshops, street vendors and scavengers is worrying, given the heavy work affecting children physically and mentally and the exploitation in terms of long working hours and peanut remunerations This is true given the very fact that the labor market in Afghanistan is still at its worst condition The reluctant behavior of law enforcement organizations and the lack of awareness about the risk of exposing children to physical experiences rendered the children the real victims

Educational Status

In Figure 3 5, presenting the educational levels of father of the children engaged in work, a majority 312 representing 52% of respondents confirmed that they had no formal education, this is to say, were illiterates 20% of respondents had Primary education, 11% Madrassah, 10% had Middle Level and just only 5% had attained High school education These statistics are worrying in terms of facilitating household heads into surrendering their children into the market system at a tender age Poverty and unending conflict have taken a devastating toll on the educational institutions The absence of vibrant educational institutions bred the cures of illiteracy in Afghan society, particularly since the last four decades Though this study has been conducted in the relatively settled area, it can be safely generalized to the rest of the country

Figure 3.5
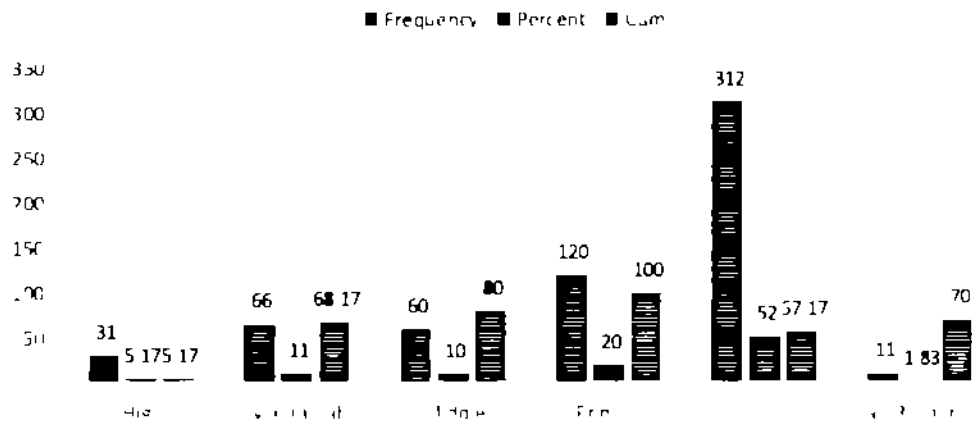
Chapter 4

Empirical Findings and Discussion

4.1 Introduction

The key objective of the study is to investigate the factors that determine Child Labor The study used primary data that have been collected from the six Nahias of Jalalabad, Afghanistan The empirical estimation have been carried out through ordered probit estimation technique

4.2 Findings and Discussion

Table 4 1 presents the empirical findings of the study The dependent variable is child activity, which is of categorical nature It encompasses four different activities related to children, that is, school only, work and school, work only and none of them. Table 4 1 presents coefficients of the explanatory variables, whereas table 4 2 presents the marginal effects

Table 4.1: Empirical Findings

Variable	Model_1	Model_2	Model_3	Model_4	Model_5	Model_6	Model_7	Model_8
Dependent Variable: Child Activity (CHA_i)								
HHI_i	0 652*** (0 000)				0 928*** (0 000)	0 785*** (0 000)	0 779*** (0 000)	0 851*** (0 000)
FAI_i		0 805*** (0 000)						
$ASSET_i$			0 36*** (0 000)					
$HHEXP_i$				-0 79*** (0 000)				
$FEDU_i$	0 219** (0 000)	0 223** (0 003)	0 383*** (0 000)	0 235** (0 002)	0 289*** (0 000)			
$MEDI_i$	0 605*** (0 000)	0 416*** (0 000)	0 740*** (0 000)	0 821*** (0 000)		0 931*** (0 000)		0 877*** (0 000)
$NLIT_i$							0 464*** (0 000)	0 299*** (0 000)
$HHSIZE_i$	-0 22*** (0 000)	- 22*** (0 000)	-0 21*** (0 000)	-0 23*** (0 000)	-0 21*** (0 000)	0 32*** (0 000)	0- 25*** (0 000)	
$CDRATIO_i$								-0 109** (0 004)
$CAGE_i$	-0 04*** (0 000)	-0 04** (0 003	0 002** (0 004)	-0 004** (0 012)	-0 003** (0 033)	-0 003** (0 035)	-0 03* (0 067)	
PT_i								0 339** (0 001)
$P2_i$	0 04*** (0 000)	004*** (0 000)	0 363*** (0 000)	0 007*** (0 000)	0 006*** (0 000)	0 008*** (0 000)	0 048*** (0 000)	0 339*** (0 000)
Obs	600	600	600	600	600	600	600	600
Wald Chi	269 54	275 07	260 04	281 14	254 45	254 45	281 14	277 36
Prob > chi2	0 000	0 000	0 000	0 000	0 000	0 000	0 000	0 000
Pseudo R2	0 198	0 193	0 180	0 194	0 166	0 176	0 194	0 192

Note *** significant at 1%, ** significant at 5%, * significant at 10% ** P-values in parenthesis The probit logit models (1-8) are estimated with categorical dependent variable "Child activity" which represents School only, Work & school, Work only and Neither work nor school The independent variables are Household Income (HHI_i), Father Income (FAI_i), Expenditure ($HHEXP_i$) are in log form $ASSET_i$, Father Education ($FEDU_i$), Mother Education ($MEDU_i$), Number of Literates ($NLIT_i$), Household Size ($HHSIZE_i$), Child dependency ratio ($CDRATIO_i$), Proximity to School (PTS_i) and Proximity to City (PTC_i)

4.3 Empirical Findings (Coefficients)

Results presented in Table 4 1 show the coefficients of explanatory variables

The parameter estimates in model_1 present the results of variables household income, father education, mother education, household size, child age and proximity to school Household income which is one of the main variable enter the model with positive sign The result indicates that increase in the level of household income tends to increase the likelihood of children to join the higher category of child activity The result is in line with the findings of (Dahl & Lochner, 2005) which found that Higher level of income increases the affordability of families to send their children to school, rather than to work,

Father education ($FEDU_t$) also enter the model which is at five percent level of significance Our result maintains the theoretical consistency by arriving at conclusion that the education of father can protract the intergenerational link of education to their children, because the father with higher human capital have more chances of earning potential income than that of lower educated parents Similar findings have been found by (Chevalier, 2004), which say that income level raises children's prospect to go to school Hence, the results confirm that in the decision regarding children, mother education plays more fundamental role than father education. We report that father education is significant at five percent while mother education proves its significance at one percent level For economizing on the human capital of child, existing literature put more weight on maternal care and upbringing at the early stages of childhood Moreover, it is true that education has significant implications for the household wellbeing and structure in general, keeping in view the difference of returns on child care and job in the labor market, educated mother tend to reduce the family size into a manageable level This gives child the opportunity to

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enjoy the higher status (education) in family and society Our findings are consistent with that of (Boyden & Levison, 2000)

The sign of the household size ($HHSIZE_t$) is negatively significant at the one percent The reason possibly being the fact that larger size families are usually defined by poverty and less per capita Hence, in the face of capital constraints, larger households find it difficult to finance children's education Thus, increase in the level of household size raises the likelihood of children to remain in the lower category of their activity, which is work only or homecare Henceforth, this conclusions reinforces that of (De Haan, 2010)

The variable child age ($CAGE_t$) with negative sign, which indicates that as the child age raises, the child has more chances of falling in the lower class of child activities, because as he grows up on his physical maturity, the inherent labor characteristics thrive in his boy Consequently, he joins the labor market

Our result indicates that proximity to city has a crucial role in determining children in the labor market Increase in proximity to city raises the likelihood of children to happen in the higher category of activities conventional view holds that as proximity to city increases, the market intensification of exchange also happens, which attract more children to the labor market, (Fafchamps & Wahba, 2006) However, due to the lack of infrastructural base in Afghanistan, it does not culminates in the attraction of children to the labor market Households which live in close proximity to city have easy access to schools, both in terms of distance and quality Thus, increase in proximity to schools raises the likelihood of children to remain in higher category (school only)

In model_2 after controlling the set of the variables, when we replaced household income replaced with father income (FAI_t), we found that the income of father comparatively plays more significant role in the decision of child activity than the income of household It is so because in joint family system, child does not necessarily have its share in the overall income of the household A family may live under one ceiling, yet they may have different economic conditions With an increase in father income, the child is likely to find itself in higher category of its activity

Similarly, when we used asset $(ASSET_t)$ instead of father income in the model_3, we realized that after asset holds its position in order of importance for families, but not as important as both incomes Asset holding of a family has significant effect on the participation decision of the family's children in the labor-force A rise in household asset holding has the tendency of increasing the possibility of children joining school, because asset holding strengthens and supplements the financial status and decreases the fluctuations in family's income, see (Nath & Hadi, 2000) However, the empirics of Dutta et al (2010) suggest that assets, particularly land, increases child labor

Similarly, household expenditure $(HHEXP_t)$ is replaced with asset in model_4, which is significant at the 1 percent level and hold negative sign, which shows that an increase in household expenditure, the child is more likely to be in a lower category (work only) One possible reason is that demographic and socioeconomic characteristics often shape the expenditure pattern of the typical household in Afghanistan. Keeping in view the persistent nature of extreme poverty and the underdeveloped status of socioeconomic and demographic characteristic, it is quite difficult for families to allocate their economic

resources to the education of children. More specifically, skyrocketing prices of food items and fuels take the lion share of their economic resources, which makes them unable to invest in children's education. The result derived here is in line with (Mayer, 1997)

The results from Model_7 found that with positive sign and at one percent significance, the number of literates ($NLIT_i$) in a family also affect the decision of household regarding children activities Hence, families with less literate individuals have no access to decent job opportunities, which in effect propels the cycle of poverty on household level More literate adults in the household can ameliorate or vanish the impact of poverty on the household, and increase the likelihood of children being in the higher category of child activities Our result in this regard is consistent with (Lipton & Ravallion, 1993)

In model_8, we particularly focus on the role of dependency ratio and proximity to school Child dependency ratio which is obtained from the division of the number of children by the number of adults in the household is significant at five percent level and has negative sign. Higher child dependency ratio increases the likelihood of children to move down to the lower category of child activities One possible justification that dependency ratio shrinks the necessary amount of parental care and financial resources which undermines parental decision regarding investing on the education of children.

Our result also shows that proximity to school (PTS_i) influence decision regarding the work or schooling It holds positive sign and is significant at one percent level Which means with the increase in proximity to school, the children are more likely to move up to the higher category of child activities On the other hand, the undersupply of educational establishments, the poor quality of schools, the risky commuting of long hours distance to schools, mainly due to volatile security situation, and the presence of shadow schools,

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which do not exist in physicality, take away all the incentives from the families to send their children to schools Our result reinforces the findings of (Kondylis & Manacorda, 2012)

4.4 Empirical Findings (Marginal Effects)

Tables 4 2a and 4 2b show the results of the marginal effects of the models depicted in table 4 1 Each model shows four values (stage), the first stage result captures those children who only go to school Unlike the interpretation of overall ordered Probit model, here we can interpret the coefficients of variables in each single category Since the dependent variable is a categorical variable, hence we need to estimate and interpret the marginal effects which show the instantaneous change in the dependent variable as function of change in explanatory variables, provided that all other covariates are given, see (Spector & Mazzeo, 1980)

Table 4.2a Empirical Findings (Marginal Effects)

Variable	Model_1				Model_2				Model_3				Model_4			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
HHI_i	.05*** (0.000)	-.13*** (0.000)	-.02** (0.003)													
FAI_i				.21*** (0.000)	.52*** (0.000)	-.13*** (0.000)	.06*** (0.000)	.21*** (0.000)								
$ASSET_i$									.05*** (0.000)	.14*** (0.000)	-.02* (0.000)	-.22*** (0.000)				
$HHEXP_i$													-.06*** (0.000)	.08*** (0.000)	.05* (0.006)	.25*** (0.000)
$FEDU_i$	.03** (0.04)	-.05*** (0.003)	-.06** (0.002)	.05** (0.001)	.04** (0.004)	-.03* (0.007)	-.04** (0.003)	.04* (0.008)	.06*** (0.000)	-.06*** (0.000)	-.03* (0.002)	.09*** (0.000)	.03** (0.001)	-.03** (0.002)	.02** (0.003)	.05** (0.004)
$MEDI_i$	.17*** (0.000)	-.19*** (0.000)	-.09*** (0.003)	.29*** (0.000)	.06*** (0.000)	-.16*** (0.000)	-.09*** (0.000)	.26*** (0.000)	.09*** (0.000)	-.21*** (0.000)	.08** (0.004)	.33*** (0.000)	.09*** (0.000)	-.19*** (0.000)	-.06** (0.003)	.30*** (0.000)
$NLIT_i$																
$HHSIZE_i$	-.09*** (0.000)	.05*** (0.000)	.07* (0.006)	.05*** (0.000)	.12*** (0.000)	.03*** (0.000)	.04** (0.03)	.05*** (0.000)	.11*** (0.000)	.03*** (0.000)	.04** (0.004)	.05*** (0.000)	-.01** (0.007)	.07*** (0.000)	.04* (0.006)	-.05*** (0.000)
$CDRATI_O$																
$CAGE_i$	-.02** (0.032)	-.06** (0.002)	.01* (0.021)	.01*** (0.000)	-.02** (0.014)	-.04** (0.002)	.01** (0.03)	-.03** (0.003)	-.02** (0.03)	-.01* (0.07)	-	-	-	.02** (0.02)	.01* (0.008)	-.01* (0.006)
PTS_i																
$P2C_i$	.09*** (0.000)	.07*** (0.000)	-.03** (0.002)	.07*** (0.000)	.06*** (0.000)	.06*** (0.000)	-.05*** (0.004)	.08*** (0.000)	.04*** (0.000)	.07*** (0.000)	-.01** (0.030)	.04*** (0.000)	.08*** (0.000)	.05*** (0.000)	-.03** (0.020)	-.03*** (0.000)

Note: 1st, 2nd, 3rd, and 4th shows stages respectively Significance levels *** = 1%, ** = 5%, and * = 10%

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Table 4.2b Empirical Findings (Marginal Effects)

Variable	Model_5				Model_6				Model_7				Model_8			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
HHI_t	-.007*** (0.000)	-.14*** (0.000)	-.01** (0.003)	.23*** (0.000)	-.15*** (0.000)	-.12*** (0.000)	-.06** (0.030)	.10*** (0.00)	.03*** (0.000)	.03*** (0.000)	.17*** (0.000)	-.06*** (0.000)	.19*** (0.000)	-.01* (0.07)	-.11*** (0.000)	.04*** (0.000)
FAI_t																
$ASSET_t$																
$HHEXP_t$																
$FEDU_t$	-.05*** (0.000)	-.04*** (0.000)	-.03** (0.004)	.07*** (0.000)												
$MEDI_t$					.13*** (0.000)	.46*** (0.000)	-.04** (0.040)	-.11*** (0.000)					.27*** (0.000)	-.03** (0.04)	-.16*** (0.000)	.08*** (0.000)
$NLIT_t$					-.04*** (0.000)	-.24*** (0.000)	.003** (0.003)	-.06*** (0.000)	.06*** (0.000)	-.03** (0.004)	.21*** (0.000)	-.08*** (0.000)	.07*** (0.000)	-.02* (0.062)	-.04* (0.051)	-.01* (0.070)
$HHSIZE_t$	-.06*** (0.000)	.03*** (0.000)	.04*** (0.003)	-.05*** (0.000)					-.23*** (0.000)	.073* (0.03)	.03** (0.021)	.041 (0.06)				
$CDRATI_t$													-.03** (0.001)			
$CAGE_t$	-.003* (0.008)	-	-	-	-	.02** (0.002)	.02** (0.004)	-.01** (0.003)	-	-	.04** (0.002)	-.01** (0.003)				
PTS_t													.04** (0.004)	-	-	-
$P2C_t$	.029*** (0.000)	.07*** (0.000)	-	.02*** (0.000)	.05*** (0.000)	-.04*** (0.000)	-.02** (0.004)	-.03*** (0.000)	.05** (0.003)	.01** (0.004)	-.08*** (0.000)	.07*** (0.000)	.01* (0.008)	.01* (0.008)	-.07*** (0.000)	

This study reveals that with a unit increase in the level of family income, child with 7% has higher probability go to school, 14% and 2% less likely to be in second and third categories respectively, and 21% more likely to remain at home. On the other hand, as the argument provided on the significance of father income over household income in table 4 1, considering the marginal effects of both incomes, it is clearly visible that the role of father income outweighs the household income. One unit increase in father income is associated with 52% more likelihood of child in the first category, 13% and 6% less likelihood in the second and third category respectively. Likewise, child will be 21% more likely in the last category if father income increases by one unit.

Similarly, in table 4 1a, model_3 shows that increase in asset raises the chance of child by 5% and 14% to remain in first or second category respectively. With increase in asset, it is highly unlikely (22%) for child to remain in the last category. So the children from asset holding families either combine school and work or go to school only. It first captures the impact of assets holding in the decision regarding child activity across the whole hierarchy. A rise in the possession of assets raises the likelihood of children to do home care by 1 5 percent. The children from asset holding households either mix school with work (from the second stage) or go to school only.

Considering the magnitudes of parent's education across the whole models, it substantiates the claim that mother education plays more fundamental role than father education in the human capital of children. For example, in model_1, rise in the level of mother education increase the chance of child by 7% to be part of the first category. Whereas the education of father will do the same by 3% 29% of probability of the child's stay in the fourth

category is associated with one unit increase in the mother education, but raises in probability in case of father education is only 5%

In any family, the size of household sets the basis for the allocation of children's time Likewise, the return of children's activity or earning potential determines the size of household (see, (Hotz & Miller, 1985) The likelihood of children to attend school is largely influenced by the number of individuals in the family needed for supplementing the household income given this analysis, (Ray, 2000) also recognized the role of household size in the welfare analysis of children Larger households are usually prone to income shocks, thus, parents are unable to allocate sufficient amount of resources to the education of children In such case, the likelihood of schooling for children becomes very low, or in some cases the second category is also being compromised

Child age is useful parameter in the decision about schooling (Durrant & Arif, 1998) Keeping in view the relative simplicity of primary schooling over middle and secondary schooling, the likelihood of the dropout from school increases after that age, but this is not applicable to Afghanistan Child age comes to play its role in the determination of child activity in light of the opportunity cost Children forgo going to school as their age increase because increasing age equip them with greater ability of earning higher wages Moreover, age square with negative sigo implies that initially school participation increases but after sometime rise in age contributes to reduction in schooling of the child (see also (Ravallion & Wodon, 2000)

Father's education is paramount in shaping child activity Educated father is more likely to decide the allocation of child's time in favor of schooling rather than working The possible

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high income earning ability through education and simultaneously realizing the importance of and return to education in the long run, educated fathers are convinced to educate children. Thus, after one unit increase in the level of education of father, there is 5% more likely of child schooling and 3% less likelihood of working Thus, this outcome is similar to that of (Edmonds & Pavcnik, 2005)

Almost every Nahia visited for the purpose is called urbanized because it is registered with the main municipality But, in actuality, the characteristics of an urban setup are hardly visible across the selected area This may range from basic facilities like electricity, infrastructure, schools, security and the like Therefore, it is problematic to depict a marked line between the urban and rural areas in the locality under consideration. "Multi-dimensional cost" of commuting to the city for ordinary people, particularly for children is very high. This is why, proximity to city is a significant factor in the decision to allocate time to children A rise in proximity to city makes it affordable and feasible to households to utilize public goods provided by government, so the likelihood of schooling increases, whilst with increase in the distance between city and locality raises the possibility of children to work.

Moreover, proximity to school is another indicator showing the existing situation of children education in Afghanistan. Increase in the school enrollment ratio is directly related to increase in proximity to school Children residing near schools are more likely to go schooling Lack of access to schooling restricts the children from going to school, instead they either join the traditional institutions or work for family at home see ((Sawada & Lokshin, 1999) Moreover, the risk of long hours commuting and the intermittent closure of schools due to security conditions dissuade the parents to educate children

With over 50 percent of the population under the age of 15 coupled with the flailing population growth in Afghanistan, the children are highly dependent on the adult members of their families. Child dependency ratio is the ratio of non-working individuals to the working age. Increase in the dependency ratio causes excessive consumption expenses on living, which leads to less investment on the enrollment of children. Thus, dependency ratio increases the drop out of children from schools and pushes them to the labor market. To examine the robustness of our estimated models and validation of the data, some diagnostic tests have been used. First we diagnosed if there is the problem of the multicollinearity in the data, for this, we apply the Variance Inflation Factor (VIF). The results of VIF test shows that there is no multicollinearity among the variables under consideration[8]. With regards to heteroscedasticity in general, there is no need to worry about heteroscedasticity in ordered probit model, because our dependent variable is categorical. So, the residuals in this case are distributed in only four points on the x-axis when plotted against the fitted values of the model. It is unlikely that the variance of "1" residuals is same as the variance of your "2" '3' or "4" residuals for the random sample a categorical variable. In other words, the variance of residuals in this case is heteroskedastic by design.

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[8] See appendix B

Chapter 5

Conclusion, Policy Recommendations and Future Research

5.1 Conclusion of the Study

The results emerging from our study are interesting but not surprising By and large, they have established the factors explaining the prevalence child labor in the country under our scope

5.1.1 Poverty

In studies of child labor, researchers have widely examined the role of poverty In our study too, poverty related factors have been examined in all the models we formulated The results had mixed impacts in our study Incomes of Household and father, household assets as expected had a positive impact on general and father in particular, the less the chances of children engaging in premature labor activities This finding implies that child labor has more to do with either household or father poverty level The results are in line with the findings of (K Basu & Van, 1998),, who concluded that households direct their children to work only when income from non-child labour are drips The reason for such findings could be that higher incomes by households in general and parents in particular accords parents the opportunity to send their children to school and to ensure protection of their childhood Furthermore, the availability of household assets strengthens the financial standing of households thereby hedging household and parental income necessary for children's proper upkeep including schooling With little income and almost no assets,

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households in Jalalabad have no alternative but to surrender their children to the harsh labour markets

Another important poverty variable household expenditure had an inverse relationship with the dependent variable in our study, implying that the more pressure on family income, the more the probability of households sending their children to work. In theory and practice, it has been established that higher expenditures especially on food and medical care are features of poor families, thus, the higher the need for such expenses, the more likely children from such families to be driven into the work place earlier than later, a daily occurrence explaining the theme of our investigation in Afghanistan.

5.1.2 Parental Characteristics

In the results, parental characteristics has equally emerged to be an important factor in explaining child labor just like poverty The extent of educational levels of parents notably father and mother had a high influence on children going to work The more educated the parents, the more the children are withdrawn from the labor market These factors are self-explanatory, this is to say, ceteris paribus, educated parents have income to maintain their families and hence have less incentive to compel their children to the labor market prematurely Conversely, Afghanistan with low if any level of education of parents, this factor is very crucial in explaining the phenomenon of child labor They are virtually uneducated and consequently have no way out rather than sending their children into the market places to supplement efforts of their parents

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5.1.3 Household Composition and Characteristics

Household characteristics variables also provided sound explanation of child labor phenomenon in Afghanistan. Household size, age and dependency of child, and number of literates in family, had mixed impacts on child labor. Size, age of child and dependency of child had an inverse relationship with child labor while literacy have positive. The more the household size increased, the old the child turned to and the more the children to cater for in a family, the higher the likelihood of children from such households engaging in the labor market.

5.1.4 Other Factors

Other factors namely proximity to school and city had a direct impact on child labor, implying that children living in the vicinity of schools and cities were more unlikely to turn into workers at tender ages, partly due to the presence of vital social services for children in such an environment like schools

5.2 Policy Recommendations

The findings of the current study have lessons to the different stakeholders particularly the government of Afghanistan, International Community, Local community, Parents and Children

5.2.1 Government

According to the findings, the government has high stakes in mitigating child labor phenomenon in the country

In terms of poverty related factors that included household income among others, the government must find channels to reduce poverty in the populous First and foremost, to alleviate poverty, the government must work towards achieving political and economic stability, to provide an enabling atmosphere for adult masses to have suitable jobs and thus income, thereby mitigating child labor

Parental education is a big challenge, where majority of Afghan parents were found to be uneducated To overcome this challenge and further the challenge of poverty, the government must enhance their investment in education. The investment should expand and increase educational facilities like schools It should be directed at addressing the high school dropout at every level of education, sabotage to educational services like acid attacks on learners, kidnapping, and defilement. The government should also urgently enhance the quality of education in terms of qualified teachers, teacher-learner ratio, learning space and educational services such as scholastic materials like note books, text books, chalk and other learning materials Further, the government should come up with flexible and proactive educational systems, with inclusive facilities, safety, and decent learning environment, to enable children to realize their full potential for breaking the intergenerational poverty trap Finally, the government must invest in the mindset of Afghani towards education particularly female education. It is hoped that implementation of such suggestions with regards to education could go a long way in mitigating the flow of children into the market system.

Household composition has been explained in the study by size, age and dependency of child and adult literacy The emphasis of the government should be on providing educational services to the masses, even adult education for those who missed out due

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numerous factors including the endless war in the country Although household size is a thorny issue given the culture and Islam, the government should come up with programmes to encourage a limit on families

5.2.2 International Community

The international community has a big stake and role to play in solving the challenges facing contemporary Afghanistan state including among others child labor

They should genuinely supplement government efforts to reduce poverty, financially and in the form of bringing the much needed security, thereby putting a break on children flowing into the labor market.

Furthermore, the support will be essential in solving parental education and some aspects of household characteristics and composition.

5.2.3 Local Community

The local communities needs to use the findings of this study in mitigating child labor They should first and foremost attract investors in their communities to create jobs to boost household and parental incomes Second, they should discourage households from sending their children in the labor market and rather encourage them to go to school Third, communities should use community assets like land, forestry, water bodies, mountains to mention but a few to create wealth for household

5 2.4 Parents

They have the biggest stake in the future of their children First, parents needs to live within their means, hence, they must plan for their families They must time their families

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depending on financial resources available to them and must keep on increasing them to correspond with the expansion in the family size. Secondly, they should desist from the habit of taking children as instruments of generating income for the family. Third, parents must be helped, sensitized and offered incentives to send their children to schools, with successful "Social Transfer" programmes like those in Brazil, Egypt and Mexico. These Transfers are a kind of regular and reliable transfer in cash or/and in kind to households or individuals that can effectively guard the families or children against the economic shocks. These incentives are delivered in many forms, including providing children with breakfast and lunch, this an effective strategy to shoulder the households in feeding the children, moreover, providing such intakes will improve the nutritional and health status of children. Another way of persuading parents to send children to school is the "Food-for-Education" initiative, operating in Bangladesh. With this initiative, families sending their children to primary schools are provided with monthly food rations. With considerable effect on child labor, this programme has remarkably increased the primary school enrollment. Social Transfer programmes have overwhelming consequences to the mitigation child labor manifested in many ways including, increased income, enhancement in accessibility to school and health service, and most importantly the improved reallocation of labor and time.

5 2 5 Children

First, child should know their rights as children and their rights to education for a better and bright future. Second, they should not accept to be exploited by their parents to work for the families.

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Like any other underdeveloped society, Afghanistan also feels the brunt of a deep-rooted problem of child labor on many fronts. Amid the multitude of factors responsible for the consolidation and perpetuation of child labor, social and economic structures, community attributes and gender discrimination also, to a great extent, condone child labor perpetuation. The apparent unfamiliarity with and the blatant disregard for the existing legislations put forward by international organization for the eradication of the child labor further exacerbate the already pervasive problem of child labor. This vicious cycle of exploitation leads to the simultaneous disenfranchisement of foundational knowledge and childhood, which could only be garnered in the classrooms.

5.3 Direction for Future Research

5.3.1 Search for new variables

Poverty, parental, and household composition and characteristics variables have formed the basis of much of the studies on child labor. Further researchers especially in war infested countries like Afghanistan needs to explore the role of variables such as war and security.

5.3.2 Urban- rural

In much of the studies, researchers have biased on child labor problem in urban setting. Researchers need to explore the rural aspects of child labor since the conditions in the two residential settings are quite different and likely to offer fresh explanation of this modern day socio-economic challenge.

5.3.3 Institutional Structure

In all countries, there are institutions directly supposed to deal with child labor. Researchers have not explored the possibilities of the nature and type of institutions and child labor prevalence. It could form a new basis for research.

5.3.4 Cultural linkage

It has been alleged that certain cultures and religions encourages early marriages, parental hood, responsibilities and consequently working at premature age. Culture and child labor linkages should empirically be investigated to provide insights into this much talked of relations

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Appendices

Appendix A. Limitations of the Study

i   The scope was limited to Jalalabad due to the prevailing insecurity in the remote areas of the country

ii   The financial constraint limited the sample size

iii   The conservative nature of the society complicated survey in some zones, where at worst children were prevented from participating in the survey, while others didn't return the questionnaires

Despite the inherent limitations and glitches in conducting the survey, particularly in Afghanistan, where there is no much precedent in the area of research, we got enough respondents and representative data Therefore, limitations do not have any significant impact on the main findings of this study

Appendix B. VIF Test

VARIANCE INFLATION FACTOR (VIF) TEST

Variable	Model_1	Model_2	Model_3	Model_4	Model_5	Model_6	Model_7	Model_8
	VIF	VIF	VIF	VIF	VIF	VIF	VIF	VIF
HHI_i	1 53				1 52	1 13	1 81	1 82
FAI_i		1 49						
$Asset_i$			1 16					
$HHEXP_i$				1 45				
$FEDU_i$	1 76	1 87	1 41	1 68	1 61			
$MEDU_i$	1 21	1 27	1 20	1 20		1 10		1 30
$NLIT_i$							1 86	2 48
$HHSIZE_i$	1 02	1 03	1 05	1 04	1 02	1 01	1 03	
$CDRATIO_i$								1 43
$CAGE_i$	1 01	1 01	1 01	1 01	1 01	1 00	1 00	
$P2S_i$								1 22
$P2C_i$	1 10	1 09	1 16	1 12	1 10	1 06	1 08	1 27
Median	1 2	1 29	1 17	1 26	1 25	1 06	1 6	1 59

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Appendix C. Definitions of Variables in the Sequential Probit Model

Variables	Definition
Dependent variables	
B1 [probability to go to school only]	1 if child goes to school only, 0 the otherwise
B2 [probability to go to school only]	1 if child combine to school and work, 0 the otherwise
B3 [probability to go to work only]	1 if child goes to work only, 0 the otherwise
B4 [probability of doing neither	1 if child does neither, 0 the otherwise
Independent variables	
Location Characteristics	
$P2C_t$	Proximity to City
$P2S_t$	Proximity to School
Child characteristics	
$CAGE_t$	Child Age
Parent's Characteristics	
$FEDU_t$	Father Education
FAI_t	Father Income
$MEDU_t$	Mother Education
Household Characteristics	
$ASSET_t$	1 if household own assets, 0 otherwise
HHI_t	Household Income
$HHEXP_t$	Household Expenditure
$HHSIZE_t$	Household Size
$NLIT_t$	Number of adult literates
$CDRATIO_t$	Child Dependency Ratio

Appendix C. Questionnaire

Thank you for taking the time to fill out this questionnaire The issue of Child Labor is evidently pervasive and affecting our society at all fronts This study only intends to explore the factors behind child labor and hence to provide recommendations for taking some effective strides against it Your honest treatment of the questions will help us in the correct assessment of this problem All the information you provide will be used solely for research purpose, and will be held in the strictest confidence

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Section G: General Information

G01 Name of Respondent _____

G 02 Date of Interview _____

G 03 Time (Start of Interview) _____

G 04 Time (End of Interview) _____

Numerator Name _____

Signature _____

ID Code		3-5(km)	5-7	7-9	9-11	>11
L01	Distance of closest city in km					
ID Code		Agriculture (1)	Business (2)	Business & servis (3)	Daily wages (4)	Other (5)
L02	Main Sources of livelihood in the location					
ID Code		No School (1)	Madrassah (2)	Primary (3)	Middle (4)	High (5)
L03	Number of schools present in the location you are residing in					

ID Code		Very poor (1)	Poor (2)	Fair (3)	Good (4)	Very good (5)
L04	Quality of school education in the location					
L05	Security situation in the location					
L06	How can you rank transport facilities in the location?					
L07	The role of charitable organizations in the location					
L08	Internet and Mobile Services					
L09	The role of private sector in creating job opportunities					
L10	Overall government attention to the location					
L11	The provision of electricity in the location					
L12	The provision of water sanitation facility in the location					
L13	The role of government policies in considering child related issues?					

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H01 How many persons live in your household[9] _____

H02: Details of household members. Ask replies besides columns 1-8 from person of age 14 years and above.

S/No	Name	Relationship with head of HH	Gender 1 Male 2 Female	Age	Marital status 1 Unmarried 2 Married 3 Widowed 4 Widow/Widower	Education General (years)	Health 1 Not good 2 Somewhat good 3 Good 4 Perfectly good

[9]Household consists of one or more people who live in the same dwelling and also share at meals or living accommodation and may consist of a single family or some other group of people

ID Code		Yes (1)	No (2)
H03	Does your house have electricity connection?		
H04	Are you receiving any financial help from NGOs?		
H05	Does more than one person in this household regularly contribute to the expenses of items?		
H06	Have you lost any of your family member in the ongoing conflict? If yes, go to H11		
H07	Have this household migrated here? If yes, go to H10		

ID Code		Job (1)	Poverty (2)	Security (3)	War (4)	Other (5)
H8	Why did you migrate?					

ID Code		Father (1)	Son (2)	Brother (3)	Mother (4)	Other (5)
H9	Who have you lost in the ongoing war?					

ID Code		Not satisfied (1)	Satisfied (2)	Fairly satisfied (3)	Highly satisfied (4)
H10	What is your level of satisfaction from the present school system?				
H11	What is the level of your children performance in the school?				

ID Code		Temporary (1)	Permanent (2)
H12	Type of residence		

ID Code		Rent free (1)	Rented (2)	Owned (3)
H13	Ownership of residence			

ID Code		Landless (1)	Marginal (2)	Small (3)	Large (4)
H14	Ownership of Land				

H15 Average income of Household (Different means of income)

Sources of Income	Monthly/Annual	Rs.
Main job/service	Monthly	
Business	Monthly	
Part time/Occasional	Monthly	
Land	Annual	
Other	Annual	

H16 Average Expenditure on the following components of Household needs

Outlays	Monthly/Annually	Rs.
Rent of the house	Monthly	
Kitchen expenses	Monthly	
Firewood(Woo, elec, Gas)	Monthly	
Transportation	Monthly	
Education	Monthly	
Social functions	Annually	
Health expenses of HH	Monthly	

ID Code	Age profile	Total	Male	Female
H17	Numbers of children up to 4 years of age			
H18	Numbers of children 5-14 years of age			
H19	Number of offspring of 16 years or above			

Section P: Parental Characteristics

ID Code		Alive (2)		Dead (1)		
P01	Father, if dead, no response to P07					
P02	Mother, if dead, no response to P08					

ID Code		25-30 (1)	30-35 (2)	35-40 (3)	40-45 (4)	45&+ (5)
P03	Age of Father					
P04	Age of Mother					
	Age of guardian					

ID Code		No School (1) (1)	Madrasah (2)	Primary (3)	Middle (4)	High (5)
P05	Education of Father(Years)					
P06	Education of Mother(Years)					
	Education of guardian					

ID Code		Unemployed (1)	Self employed (2)	Employed (3)
P07	Current Employment of Father			
P08	Current Employment of Mother			

ID Code		5000-10000 (1)	10000-15000 (2)	15000-20000 (3)	20000-25000 (4)	25000+ (5)
P09	Father Monthly Income					
P10	Mother Monthly Income					

ID Code		Daily (1)	Weekly (2)	Monthly (3)	Rate/service (4)
P11	Periodicity of payment of Father				
P12	Periodicity of payment of Mother				

C01   (Children 5-14 years)

S/No	Age	Name	Description

ID Code		Fifth (1)	Fourth (2)	Third (3)	Second (4)	First (5)
C02	Birth order of child					
C03	How many hours does the child work daily?	0 (1)	3-6 (2)	6-9 (3)	9-12 (4)	More (5)
1						
2						
3						
4						
5						
C04	Monthly income/salary of Child from job	0 (1)	2-3 (2)	3-4 (3)	4-5 (4)	More (5)
1						
2						
3						
4						
5						

ID Code		School only (1)	Neither (2)	School& work (3)			Work only (4)
C05	Which activity is the child currently involved in?						

ID Code		Daily (1)	Weekly (2)	Monthly (3)			Rate (4)
C06	Periodicity of child income from job						

ID Code		Help business (1)	Lack of interest (2)	Poverty (3)	Not useful (4)	Don't know (5)
C07	If the child is not going to school, what is the possible reason?					

ID Code		Own Business (1)	Hotel Servant (2)	Street vendor (3)	Workshop (4)	Other (5)
C08	Type of activity the child is involved in					

ID Code		House work (1)	By someone else (2)	Self employed (3)
C09	Nature of child employment			

ID Code		Financing someone else (1)	Self-finance (2)	Financing family (3)
C10	The objective of working			

If in the future, you want to be contacted regarding same type of studies, then please provide us the following information

Contact No _____2_____

Address _____

Email Address _____