

## **EXPLORING THE CHILD ACTIVITIES IN AFGHANISTAN AFTER THE US-LED INTERVENTION IN THE WAKE OF SEPTEMBER 9/11**

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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. In this connection this study attempts to explore child activities in Afghanistan and uncover the factors that push child to labor market. In so doing, we used survey data set of 600 households, which was categorized in terms of household characteristics, child characteristics, parental characteristics and location characteristics. The survey was conducted in the eastern city of Afghanistan, Jalalabad. Empirical estimations have been carried out through sequential probit estimation technique. The findings of the study revealed that parental characteristics such as parents' education and household characteristics such as household income and number of literates in the family significantly increase the chances of children to join the higher category of child activity (school only) and reduce the chances of children to indulge in child labor. Where, household size, household expenditure and number of children in household tend to increase the likelihood of children to move down to the lower category of child activities. Importantly, the result indicates that as child age rises, the child is more likely to be in the lower category of child activities. Our result indicates that proximity to city and school plays an important role in the determination of child activities. Increase in proximity to city and school raises the likelihood of children to happen in the higher category of activities.

*Key words:* Child Activities, Afghanistan, Sequential Probit, Child Labor

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## **Introduction**

Ever since the Soviet invasion in 1978, Afghanistan has experienced the endless wars, the civil war amid the Mujahedeen in 1990s, the US invasion in 2001, and the war on terror have destroyed the country and all its institutions. In the aftermath of the US-led invasion of Afghanistan, the war has so far driven that 683,301 indigenous population out from their lands, 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 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. The protracted conflict destroyed the existing social and economic fabrics and left the political institutions and physical infrastructures of the country in shambles. This has resulted into enormous socio economic challenges; that consecutively caused indefinable 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.

According to World Bank (2015) report, Afghanistan is the fifth youngest nation in the world, and the first in Asia. 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). However, 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. As a result of persistent war and insecurity in Afghanistan, the problem of child labor at both extensively and intensively is accumulating. Besides, 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 kept out of school (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, 2006). 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 et al., 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). Empirical studies have identified a number of factors that explain the decision of parents to involve their children in any activity. Blunch and Verner (2000) argued that among these factors, poverty is considered an obvious contextual factor that dominates the decision-making of parents about their children activities. Keeping in view, 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 households in Afghanistan are prone to some kind of shocks i.e., environmental, political, or economic (Jhonecheck & Hollan, 2007). Das & Gangopadhyay (2023) highlighted similar evidence during the COVID-19 pandemic in the US in the context of household food allocations. The issue of government expenditure has also been considered as a forcing variable (see Gangopadhyay, 2007).

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, 2011b). Despite the so many humanitarian interventions by international organizations, neither the hefty promises such as bringing economic development and justice 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 has further exacerbated the incidence of child activities. In Afghanistan, the prevalence of child labor ranges from minimum 18 to maximum 42 percent.<sup>1</sup> In short, child labor, both its magnitude and extremity is an appalling fact 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 (Save the Children, 2015). In this connection, the study is devoted to explore child activities in Afghanistan after the US-Led Intervention in the Wake of September 9/11. 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.

Moreover, this study holds uniqueness in the sense that in case of Afghanistan 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 availability of schools, proximity to schools and distance to cities are the main causes for the prevalence of child labor in Afghanistan. Having investigated the specific contextual factors driving children into the labor force at tender age in Afghanistan; the study used primary data set obtained from survey through questionnaire. The scope of the study is limited to the six Nahias of Jalalabad city one of the largest city of Afghanistan. The rest of the study is organized as follows. Section 2 discusses review of the existing

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<sup>1</sup> 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 is comparatively lower in central and southeastern parts of Afghanistan (Guimbert et al.,2008)

studies on the issue in Afghanistan and other developing countries. Section 3 constructs methodology for the study, which comprises analytical frame work, definition and construction of variables under consideration, sample and sampling technique, and estimation technique. Section 4 categorically presents the output of the research and then provides a full discussion of it. Section 6 concludes the study; it also provides some policy recommendations for confronting and reduction of the phenomenon of child labor in Afghanistan.

## **Review of Literature**

Keeping in view the perceived role and function of every member in the household, so far different theories have been developed, which provide plausible explanations for the prevalence of child activities involved in. The theoretical literature on the determinants of child labor posits that households' attitudes towards child activity are determined by pecuniary and non-pecuniary behavioral factors. For example, Basu and Van (1998) argued that poverty is the most influential factor affecting the child labor in developing countries. Historically, during the stages of development it was also main factor affecting the child labor in advance industrialized countries (Basu, 1999). High fertility rate also increases the incidence of child labor especially for households struggling with the subsistence level expenditures. Moreover, government intervention in the labor market in the form of ban on child labor and minimum wage laws are counterproductive if household income is less than the subsistence level of requirement (Basu & Van, 1998; Basu, 2002; Gangopadhyay et al, 2014). Bhalotra (2007) test the poverty hypothesis using data from rural Pakistan and found that child labor prevails and persist in those households with income less than sufficient to meet the subsistence level of consumption. However, the econometric analysis provide support for boys only while in the case of girls data does not support the persuasive poverty hypothesis. Many studies use longitudinal data to test the poverty hypothesis and argued that poverty pushed parents to engage their children in labor activity (Beegle et al., 2006; Dammert, 2008). Kambhampati & Ranjan (2005) found that an increase in parents' income decrease child labor activities. Some studies emphasize on the poverty of opportunity or more precisely differential returns to schooling which transmitted in the lower adult wages as a potential predictor of prevalence and persistence of child labor especially in a developing countries. For example, Emerson and Knabb (2006) argued that lower return on schooling, inequality of opportunity for quality education and imperfections in the labor market are the potential causes of prevalence of child labor in developing countries. Instead of identifying the symptoms of child labor more importance should be given to the potential causes of child labor. Many studies underline the low return to schooling, low quality of schooling especially in rural areas and teacher absenteeism as potential causes of incidence of child labor (Emerson & Knabb, 2006; Bellamy, 1997; Dr'eze & Kingdon, 2001; Chaudhury et al., 2006). Chaudhury et al. (2006) empirically investigate the teacher absenteeism in six developing countries and found high proportion of teachers was missing from their schools. The problem of missing teachers and rate of absenteeism was higher in the underdeveloped regions of selected countries. School quality, lower returns on schooling and higher cost

of schooling are also significantly impacting child labor in Developing Asia (Ray, 2002; Ray, 2001; Kambhampati, 2008). An imperfection in the credit market is another factor that helps us to explain the prevalence of child labor (Ranjan, 2001; Alvi & Dendir, 2011). Ranjan (2001) developed a theoretical model and proved that the poverty could not prevent the households from the schooling of their children as long as they are able to successfully borrow and returns on education is higher than prevailing market interest rate. Baland & Robinson (2000) analyzed the role of credit market, commitment problem on the part of child and filial altruism on the incidence of child labor. According to their findings if credit market works perfectly than filial altruism mitigate the negative effect of commitment problem and incidence of child labor reduce. However, the empirical investigation on the relationship between credit market imperfections and child labor provide mix evidence. Some studies support the optimistic view and found negative relation between child labor and access to credit (Dehejia & Gatti, 2002; Beegle et al., 2003; Edmonds, 2006; Guarcello et al., 2010). In contrast, some studies find positive relationship between the child labor and access to microcredit in developing countries (Hazarika & Sarangi, 2008; Maldonado & Gonz'alez-Vega, 2008). Another factor is the imperfections of land and labor markets in most of developing countries which encourage landowners to employ their children as form laborer. For instance, Bhalotra & Heady (2003) argued that when land and labor markets are imperfect than child labor is an appealing option for the landowner to meet the labor demand. When land and labor markets are imperfect, an increase in land holding resulted in magnification of child labor at lease in short run (Bar & Basu, 2009; Basu et al., 2010). Parental characteristics such as education, income and altruism have also been said to have influence on the incidence of child labor. Education by altering the parental preference, play a pivotal role in mitigating the incidence of child labor (e.g. Strauss and Thomas, 1995). Many empirical studies on developing countries strongly support the claim that the parental education reduces the incidence of child labor (Binder & Scrogin, 1999; Emerson & Souza, 2003; Levison, Moe & Knaul, 2001; Patrinos & Psacharopoulos, 1995; Canagarajah & Coulombe 1997; Gill 1994; Kurosaki et al., 2006). One of the common assumption of theoretical model of child labor is that parents act altruistically toward their children (e.g. Rogers & Swinnerton ,2004; Basu & Van,1998). However, empirical literature is inconclusive regarding the parental altruism. For example, Parsons and Goldin (1989) found that parents do not act altruistically while deciding the time allocation of their children in United States, whereas Bhalotra (2004) support the evidence of parental altruism in Pakistan. Another parental characteristic that influence the decision of time allocation pattern of children is parental income and employment. Many empirical studies support the claim that increases in parental income reduce the incidence of labor (Binder & Scrogin, 1999; Canagarajah & Nielsen, 2001; Emerson & Souza, 2003; Levison, Moe & Knaul, 2001). Incidence and prevalence of child labor also reduce with the increase in adult employment (Manacorda & Rosati, 2011). Recently, growing literature highlights the importance of macroeconomic factors while discussing the prevalence of child labor in developing countries. For example, Hazan & Berdugo (2002) argued that economic growth can leads to steady state equilibrium with low fertility rate and decrease in incidence of child labor. Similarly, Kambhampati and Ranjan (2006) found that initially supply and

demand of child labor increase with the increase in economic growth, but when economic growth sustained over period of time the supply of child labor sufficiently reduced resulting in reduction of child labor. Moreover, trade liberalization, and FDI inflows leads to decline in incidence of child labor (Edmonds & Pavcnik, 2006; Cigno et al., 2002; Neumayer & De Soysa, 2005; Edmonds & Pavcnik, 2005). Existing literature suggest that gender discrimination at house hold level can also affect the girls and boys labor supply decisions (Basu, 1999; Hazarika & Sarangi, 2008). Discrimination at household level, Social norms, and limited employment opportunities for adult female especially in developing countries sometime discourage the schooling of girls and hence increases the female child labor. Barcellos et al. (2010) found the evidence of discrimination on the part of parent in time allocation for child care, investment on healthcare and duration of breastfeeding. Kambhampati and Rajan (2008) observed that girls are mostly engaged in house hold errands which does not reflect in the child labor analysis.

Some studies recently argued that for effective policy perspective, differentiation should be made on the demand side and supply side determinant of child labor (Kis-Katos & Schulze, 2011). The demand side factors affecting the child labor are associated with the aggregate economic activity which in turn increases the demand for adult labor and beneficial for overall development. However, supply side factors such as poverty, fertility and availability of low cost schooling are relevant for combating child labor by reducing the supply of child labor (Kis-Katos & Schulze, 2011). In the same line Dessy (2000) suggest the compulsive measures against child labor which could resulted in lower fertility and sustained economic growth which in turn reduce the incidence of child labor. Existing literature also identifies several plausible explanations for the role of armed conflict in the persistence and prevalence of child labor, even encourage the worst forms of child labor, including prostitution, involvement in illicit drug trade, force and bonded work.

## **Methodology**

This section of the study presents comprehensive methodology that comprises into four subsections. The subsection 3.1 presents analytical framework, 3.2 presents definition and construction of variables under consideration. Whereas 3.3 demonstrates detailed discussion about sample and sampling technique. The last subsection 3.4 discusses estimation technique in order to investigate child activities and its determinants.

## **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 activities that child engaged. In order to portray the true picture of the prevalence of activities that child engaged in, especially in country 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

activities. The analytical framework for this analysis is based on the standard Becker (1965) household's time allocation model. Empirical work based on this framework assume the maximization of household utility as the function of the different sets of characteristics, such as the number of children, leisure for every child, parental leisure, 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. In the line of Rosenzweig and Evenson (1977), Levison (1991), Levison, Moe and Knaul (2001), we use the utility maximization framework to model the choices regarding child activities as function of internal and external factors. Internal factors are related to the individuals, parental and household characteristics. External factors normally related to the community infrastructure such as availability of school and distance to city (see Gangopadhyay & Chatterji, 2016). A similar approach was adopted by Rahman & Gangopadhyay (2011) while addressing impacts of conflicts on working poverty in Asia.

### **Definition and Construction of Variables**

#### **Dependent Variable:**

Child activity ( $CHA_i$ ) is our dependent variable, which preserved as categorical. We consider four activities that child engaged in, namely school only, combination of school and work, work only, and homework/ neither work nor school.

#### **Independent Variables:**

Household's Income ( $HHI_i$ ); household's income is the combined income of all those members of the household who are 14 and/or above years old. Most of the existing studies considered income as the key determinant of child's time allocation. Father Income ( $FAI_i$ ); unlike, household income, father income is only earned by household head or bread winner of the family. In case if father is the only income earner in the family, then household and father incomes are the same. However, in the case of joint family system where a set of families live under one roof but share the same meal and income, father income and household income are not the same. Assets ( $ASSET_i$ ); 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 ( $CDRATIO_i$ ); the child dependency ratio is calculated as 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. Parents' Education; the education of father and mother is measure in years of education. Household Size ( $HHSIZE_i$ ); Size of

household measured by the overall number of male, female; adult and children individuals in the household. Proximity to City ( $PTC_i$ ); city proximity is the numerical description of how close a household is 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. Child Age ( $CAGE_i$ ); Table 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 allows 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.

**Table 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	Δ1	x	x
15 to 17	O	O	x

Source: ILO, 2005

### Sample and Sampling Technique

The universe of this study is household that have members below 18 years. The sampling framework of this study comprises households from the six Nahias of the Jalalabad city (Capital city of Nangarhar province). Each Nahia is consisted of four zones, i.e. A, B, C, and D, two zones from each Nahia were selected randomly, in each of them only 50 households were selected randomly and surveyed. Therefore, total 600 households were our sample size across Jalalabad city. The city of Jalalabad is one of the fourth largest cities in Afghanistan in terms of population. It is located in the eastern part of the country. Due to its geopolitical position in Afghanistan, Jalalabad city is one of the most affected city in war against terrorism after September, 9/11. Literacy rate in Nangarhar is only 29 percent whereas the National Scale of literacy rate is 38.2 percent. Female literacy rate in rural areas around the city of Jalalabad is 18.2 percent and the male literacy rate is 41 percent (UNICEF, 2015). The recent escalation in war in the eastern part of the country has caused the closure of some schools in the province.



### Estimation Technique

Keeping in view nature of our dependent variable the empirical investigation carried out through Sequential Probit Model. The Sequential Probit Model considers each decision as a sequence of stages, and therefore for each alternative, the set of explanatory variables is adjusted. The number of outcomes in the sequential Probit model depends upon the number of categories it contains. In our case, in the first stage the coefficients would be estimated by the univariate Probit model with a dependent variable which indicates whether the child only goes to school or otherwise using the rest of the sample. In second stage, coefficients are estimated with the dependent variables, which represents whether child is engaged jointly in schooling and work, or otherwise, using the sub-sample exclusive observations of children who only go to school. The third step estimate coefficients for the dependent variable which indicates whether child works only or otherwise using sub sample excluding observations of children who goes to school or combines school or work intuitively. The application of this model implicitly assumes that the household decision order process is sequential. The household first decide whether the child should attend school or not, then whether they additionally should engage in work, and finally whether children should engage in work only. The sequential (ordered) Probit models have some advantages over simple multinomial choice model. The multinomial choice model is very suitable for modelling probabilistic choice but it has some limitations. For instance, the assumption of independent alternatives (IIA) that states “relative probabilities for any two alternatives depend only on the attributes of those two alternatives”. The multinomial choice model is based on the IIA (Wooldridge, 2010). However, sequential decision-making model relax the IIA and hence provides more realistic results (Wooldridge, 2010). Since alternatives are introduced one at a time, and the vector of explanatory variables, if needed can be adjusted for each set of alternatives. The sequential approach is thus more appropriate for application in which a clear preference ordering of options is possible. Keeping in view the nature of dependent variable, the present study analyzes the supply side determinants of child labor supply as a sequential decision-making process. Hence, lead to the following four choices.<sup>2</sup>

$B_1$  = Probability to go to school and not to work

$B_2$  = Probability go to school and work.

$B_3$  = Probability not go to school but to work

$B_4$  = Probability not go to school and not to work

The probabilities for the four choices are determined as followed.

$$B1 = f(a_1X) \quad (i)$$

$$B2 = [1 - f(a_1X)]f(a_2X) \quad (ii)$$

$$B3 = [1 - f(a_1X)][1 - f(a_2X)]f(a_3X) \quad (iii)$$

$$B4 = [1 - f(a_1X)][1 - f(a_2X)][1 - f(a_3X)]f(a_4X) \quad (iv)$$

<sup>2</sup> Please see appendix A for the definition of variables in the sequential probit model.

Where  $a_1, a_2, a_3, a_4$  are included in the model as dichotomous variables, which presents whether the child goes to school or not, whether the child combines school with work or not, whether the child work or not, and whether the child is involved in homecare or not, respectively. Parameter  $a_1$  are estimated over the entire sample. Parameter  $a_2$  are estimated over the sample of children excluding those who go to school only. Parameter  $a_3$  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 for all the remaining.

## Empirical Findings and Discussion

Table 2 presents 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. Results presented in Table 2 show the coefficients of explanatory variables.<sup>3</sup> The parameter estimates in model\_1 present the results of variables household income ( $HHI_i$ ), father education ( $FEDU_i$ ), mother education ( $MEDU_i$ ), household size ( $HHSIZE_i$ ), child age and proximity to school.

Household income ( $HHI_i$ ), which is one of the main variables enters the model with expected 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 ( $FEDU_i$ ) 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 has 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 increases the likelihood of children to go to school, which is also observed in Cambodia (see Gangopadhyay et al., 2023).

**Table 2:** Empirical Findings (Dependent Variable: Child Activity ( $CHA_i$ ))

Variable	Model_1	Model_2	Model_3	Model_4	Model_5	Model_6	Model_7	Model_8
$HHI_i$	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)	---	---	---	---	---

<sup>3</sup>. In appendix B marginal effects results of explanatory variables are presented.

Variable	Model_1	Model_2	Model_3	Model_4	Model_5	Model_6	Model_7	Model_8
$HHEXP_i$	---	---	---	-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)	---	---	---
$MEDU_i$	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)	---
$CDRATON_i$	---	---	---	---	---	---	---	-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)	---
$PTS_i$	---	---	---	---	---	---	---	0.339** (0.001)
$PTC_i$	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 <sup>2</sup> .	269.54	275.07	260.04	281.14	254.45	254.45	281.14	277.36
Prob.> Chi <sup>2</sup> .	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R <sup>2</sup> .	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.

Our results confirm that in the decision regarding children, mother education  $MEDU_i$  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 enjoy the higher status (education) in family and society. Our results are consistent with the findings of (Boyden & Levison, 2000). The sign of the household size ( $HHSIZE_i$ ) is negative, and significant at the one percent level. This may be due to the reason that larger size families are usually defined by poverty and less per capita. Hence, in the face of capital constraints, it is difficult for larger size household to invest in the education of children.

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. Our findings are in line with the findings of (De Haan, 2010).

The variable child age ( $CAGE_i$ ) with negative sign, which indicates that as the child age rises, the child is more likely to be in the lower category of child activities, because as he grows up on his physical maturity, the inherent labor characteristics thrive in his body. Consequently, he joins the labor market. Our result indicates that proximity to city ( $PTC_i$ ) plays an important role in the determination of child labor. 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 culminate 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 ( $FAT_i$ ), we found that comparatively, the income of father 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 ( $ASSET_i$ ) 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 impact on the participation decision of the family's children in the labor market. Rise in the asset holding of a household tends to increase the school joining likelihood of children in the family, because asset holding strengthens and supplements the financial status and decreases the fluctuations in family's income (Nath & Hadi, 2000). However, some studies also document the evidence for positive association of land holding and child labor (Basu et al., 2010).

Similarly, household expenditure ( $HHEXP_i$ ) 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 the family also affect the decision of household regarding child's 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, 1995).

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. This 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, 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).

## Conclusion

This study has uncovered some of the socioeconomic determinants which explain child activities after the US-led intervention of the wake of September 9/11. To make rare exploration the factors that explain child activities we used survey data set of 600 households, which was categorized in terms of household characteristics, child characteristics, parental characteristics and location characteristics. Overall findings of the study revealed that in Afghanistan along with economic factors child activities are also entrenched in the social fabric. The findings of the study revealed that parental characteristics such as parents' education and household characteristics such as household income and number of literates in the family significantly increase the chances of children to join the higher category of child activity (school only) and reduce the chances of children to indulge in child labor. Where, household size, household expenditure and number of children in household tend to increase the likelihood of children to move down to the lower category of child activities. Importantly, the result indicates that as child age rises, the child is more likely to be in the lower category of child activities. Our result indicates that proximity to city and school plays an important role in the determination of child activities. Increase in proximity to city and school raises the likelihood of children to happen in the higher category of activities.

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## Appendix A: Definitions of Variables in the Sequential Probit Model

<b>Dependent Variable</b>	
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.
<b>Independent Variables</b>	
Location Characteristics	
$P2C_i$	Proximity to City
$P2S_i$	Proximity to School
Child characteristics	
$CAGE_i$	Child Age
Parent's Characteristics	
$FEDU_i$	Father Education
$FAI_i$	Father Income
$MEDU_i$	Mother Education
Household Characteristics	
$ASSET_i$	1 if household own assets, 0 otherwise
$HHI_i$	Household Income
$HHEXP_i$	Household Expenditure
$HHSIZE_i$	Household Size
$NLIT_i$	Number of adult literates
$CDRATIO_i$	Child Dependency Ratio

## Appendix B: 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
<i>HHI<sub>i</sub></i>	.05*** (0.000)	-.13*** (0.000)	-.02** (0.003)	.21*** (0.000)	----	----	----	----	----	----	----	----	----	----	----	----
<i>FAI<sub>i</sub></i>	----	----	----	----	.52*** (0.000)	-.13*** (0.000)	-.06*** (0.000)	.21*** (0.000)	----	----	----	----	----	----	----	----
<i>ASSET<sub>i</sub></i>	----	----	----	----	----	----	----	----	.05*** (0.000)	.14*** (0.000)	-.02* (0.000)	-.22*** (0.000)	----	----	----	----
<i>HHEXPI</i>	----	----	----	----	----	----	----	----	----	----	----	----	-.06*** (0.000)	.08*** (0.000)	.05* (0.006)	.25*** (0.000)
<i>FEDU<sub>i</sub></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)
<i>MEDI<sub>i</sub></i>	.07*** (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)
<i>HHSIZE<sub>i</sub></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)
<i>CAGEI</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)
<i>P2C<sub>i</sub></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: 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> shows states respectively, whereas \*\*\*, \*\*, \* shows significance at 1%, 5% and 10% respectively.