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CHILD LABOR IN BRAZIL AND TURKEY

THESIS OF MASTER

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FOREWORD

This master thesis where written during the time-period from fall 2009 until summer 2010, under the teaching supervision of Professor Ahmet Insel, University of Galatasaray.

The intent of the thesis is to examine child labor phenomenon in Brazil and Turkey with econometric evidences.

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TABLE OF CONTENTS

FOREWORD	ii
ABBREVIATIONS	v
LIST OF FIGURES	vi
LIST OF TABLES	vii
RESUME	viii
ABSTRACT	xiii
ÖZET	xviii
1. INTRODUCTION	1
2. CHILD LABOR TERMINOLOGY	3
2.1 Child Poverty	5
3. DETERMINANTS OF CHILD LABOR: REWIEV OF LITERATURE	8
3.1 Poverty and child labor	8
3.2 Shocks and child labor	12
3.3 Child labor and labor market conditions	17
4. FIGHTING CHILD LABOR: CASH TRANSFER SCHEME	22
4.1 Cash Transfer Programs in Brazil	24
4.2 Cash Transfer Program and Compulsory Education in Turkey	26
4.3 Impact of CCT programs	29
5. CHILDREN’S INVOLVEMENT IN EMPLOYMENT AND SCHOOLING IN BRAZIL AND IN TURKEY	32
5.1 Facts of Children’s Employment and Schooling in Brazil	32
5.1.1 Data	32
5.1.2 The Results	33
5.1.3 Trends of Children’s Work in Brazil	41
5.1.4 Why Children’s Work Has Declined in Brazil?	45
5.2 Facts of Children’s Employment and Schooling in Turkey	48
5.2.1 The Causes of Child Labor’s Continuity in Turkey: Poverty, Apprenticeship and Migration	51
5.2.2 Why Children’s Work Has Declined In Turkey?	53

6. ECONOMETRIC EVIDENCES.....	56
6.1 Econometric Evidence from Brazil	56
6.2 Econometric Evidence from Turkey	64
7. CONCLUSION.....	72
8. REFERENCES.....	75
APPENDIX	82
CURRICULUM VITAE	83
TEZ ONAY SAYFASI	1

ABBREVIATIONS

CCT	: Conditional Cash Transfers
CLS	: Child Labor Survey
CRS	: Children's Right Society
ILO	: International Labor Organization
IPEC	: International Programme on the Elimination of Child Labor
PETI	: Programa de Erradicação do Trabalho Infantil
PNAD	: Pesquisa Nacional por Amostra de Domicílios
UCW	: Understanding Child Labor

LIST OF FIGURES

Figure 2.1: Percentage of total children (under 18).....	7
Figure 3.1: Working children by type of shocks.....	14
Figure 4.1: Conditional Cash Transfers in the World: 1997 and 2008.....	23
Figure 5.1: Distribution of children by activity category, 7-15 years.....	33
Figure 5.2: Children's involvement in employment and schooling, by region, 7 15year-olds, percent.....	34
Figure 5.3: Child economic activity, by residence modality, 7-15 years age group, percent.....	35
Figure 5.4: Child economic activity, by gender and modality, 7-15 years age group, percent.....	36
Figure 5.5: Distribution of children's economic activity, 7-15 years.....	37
Figure 5.6: Distribution of children in economic activity by working hours, 7-15 and 16-60 years age group.....	39
Figure 5.7: Children's activity category, by age.....	40
Figure 5.8: Children's employment, from1992 to 2008.....	41
Figure 5.9: Children's employment and schooling, 7-15 years old.....	42
Figure 5.10: Children's employment and schooling, by residence, 7-15 years old.....	43
Figure 5.11: Children's employment, by age, by survey year.....	43
Figure 5.12: Children's school attendance, by age, by survey year.....	44
Figure 5.13: Causes of children's work, percent.....	53
Figure 5.14: Children in employment, by gender and residence, percent.....	54
Figure 5.15: Children's economic activity in Turkey.....	55

LIST OF TABLES

Table 2.1: Worst Forms of Children’s Work in the World.....	4
Table 2.2: Working Children in the World.....	5
Table 2.3: Working Children in 2002.....	5
Table 3.1: Multinomial Logit Model & Marginal effects obtained from data in Guatemala.....	13
Table 3.2: Effect of income shocks in Argentina (instrumented by Brazilian nominal exchange rate) on school attendance and availability to work.....	14
Table 5.1: Children’s involvement in employment and school attendance, by region, 7-15 year-olds, percent.....	34
Table 5.2: Child economic activity, by residence and gender, 7-15 years age group, percent.....	37
Table 5.3: Average weekly working hours by school attendance, age group, sex, residence area, industry and modality.....	38
Table 5.4: Children’s activity category, by gender and, by survey year.....	45
Table 5.5: Children's Time Use and Characteristics: Brazil, 1992 and 2008, children aged 7-14 years old.....	46
Table 5.6: Children’s employment and schooling, by survey year, 6-17 years old...48	
Table 5.7: Children’s employment, by residence and survey year, 6-17 years old...49	
Table 5.8: Children’s employment, by residence, gender and survey year, 6-17 years old.....	49
Table 5.9: Trends of Child Labor in Turkey.....	50
Table 5.10: Labor Force Participation Rate in Turkey.....	50
Table 5.11: Logistic regression results obtained from PNAD using working children as dependent variable.....	61
Table 5.12: Logistic regression results obtained from PNAD using “only working, only schooling, combining employment and schooling, inactive” children as dependent variables.....	62
Table 5.13: Logistic regression results obtained from CLS using working children as dependent variable.....	70
Table 5.14: Logistic regression results obtained from CLS using working children as dependent variable.....	70
Table 5.15: Working Children in Brazil and Turkey (2006).....	73

RESUME

Le travail des enfants est récemment devenu l'ordre du jour dans le monde entier. La littérature examinant les raisons, les conséquences et les déterminants de la force de travail des enfants se progresse. Les enfants représentent les générations futures, par conséquent il devient nécessaire d'examiner les raisons, les conséquences et les déterminants et le trend du travail des enfants qui cause l'abondance de la scolarité par les enfants.

Ce travail a le but de représenter le travail des enfants au Brésil et en Turquie. En même temps, on va illustrer la nature du travail des enfants, ses déterminants et ses conséquences à la scolarité.

Le travail des enfants empêche la scolarité et le succès à l'école. Certains enfants s'occupent du ménage de leur famille, certains travaillent non-rémunérés ou salariés pour le ménage. Les garçons sont plus aptes d'être employé au travail périlleux, les filles sont plus aptes de travailler pour le ménage. On va utiliser les déterminants du travail d'enfants de l'Organisation Internationale du Travail (OIT) pour spécifier quels types d'activités représentent le travail des enfants.

D'un côté le travail des enfants doit être aperçu comme la violation des droits des enfants. De l'autre côté c'est une barrière contre le capital humain. De cette raison, le travail des enfants est un phénomène important et on va examiner ce problème qui se concentre au Brésil et en Turquie.

Le travail des enfants est une décision conjointe et lié à la pauvreté, le marché du travail et les préférences familiales. On va évaluer dans cette recherche le travail des enfants révisant la littérature.

D'après la littérature sur le travail des enfants, le travail des enfants est identifié comme la persistance et la pauvreté dans les économies en développement. La vulnérabilité des ménages contre la pauvreté et la révélation des chocs ont prouvé un des facteurs principaux sous-jacents à la décision des familles à les trouver un emploi (Edmonds et Pavcnik, 2005).

Généralement, c'est évidemment vu que dans les pays où il existe une pauvreté rigide, ne pas envoyer les enfants à l'école par les familles est un phénomène très fréquent. On peut trouver plusieurs études qui perçoivent un lien négatif entre le revenu de la famille et le travail des enfants.

Par exemple, les travaux de Spindel (1985) et Fausto et Cervini (1991) indiquent que le travail des enfants est fréquemment le résultat de la pauvreté des ménages. En plus des évidences, Filho (2008) trouve le lien entre le revenu du ménage et la participation à la scolarité et l'inscription à l'école des enfants ruraux

entre l'âge de 10 à 14 ans au Brésil. En même temps, Edmonds et Pavnick (2005) examinent le panel data recueilli pendant le boom économique de Vietnam durant les années 90 et ont trouvé 80% du déclin du travail des enfants au Vietnam. Ils ont indiqué que cette chute peut être expliquée par les améliorations des dépenses per capita et la distribution des niveaux de subsistance à travers les ménages.

Edmonds (2006) compare le travail des enfants et la scolarisation dans les ménages sud-africains qui sont au point de recevoir un grand transfert d'argent prévu au travail des enfants et la scolarisation dans les ménages recevant déjà l'argent. Il constate que le travail des enfants diminue et la scolarisation accroît sensiblement quand les ménages commencent à recevoir le revenu prévu.

Bien que les résultats des explorations soient les mêmes qui indiquent que la pauvreté est un facteur important entraînant les enfants pour travailler, il existe une évidence mixte d'un lien entre la pauvreté et le travail des enfants. Dans ce contexte, Barros, Mendonça, and Velazco (1996) trouvent que l'emploi des enfants incline à être plus petit dans les régions métropolitaines plus pauvres au nord-est du Brésil et plus grand dans les régions plus riches au sud. Levison (1991) trouve que les ratios les plus élevés du travail des enfants n'existent pas dans les villes les plus pauvres mais dans celles où les revenus sont plus hauts.

En outre de l'importance de la pauvreté, le travail des enfants est étroitement lié aux conditions du marché de travail. Les conditions améliorées de marché de travail exercent deux effets différents sur la scolarisation des enfants et leur comportement de travail (pour un modèle théorique, voir Cigno et le Rosati, 2005 ; Kruger, Soares et Berthelon, 2007). D'une part, dans la mesure où de meilleures conditions de marché de travail produisent d'un revenu plus élevé pour des adultes et des loisirs et/ou instruire sont les biens normales. D'ailleurs, ainsi, la participation du marché du travail des enfants pourrait tomber (l'effet de revenu). De l'autre part, les meilleures conditions de marché de travail, en termes de salaires réels plus élevés (ou retours plus élevés aux activités économiques de famille) et/ou les opportunités d'offres d'emploi pourraient mener à une augmentation des retours au travail et pourrait induire des ménages à envoyer leurs enfants au travail (l'effet de substitution).

Duryea et Arends-Kuennings (2003) montrent que le ratio d'emploi des enfants âgé de 14-16 ans au Brésil urbain s'accroît quand les conditions du marché de travail local se progressent. De plus, les auteurs indiquent que les ratios de l'emploi des enfants sont plus élevés aux temps et aux régions où les enfants ont meilleures opportunités de travail qui sont mesurés par les conditions du marché de travail pour le cas de l'emploi des enfants au Brésil et autres pays de l'Amérique Latine.

Kruger (2007) indique que le travail des enfants augmente pendant les périodes des croissances temporaires à l'activité économique locale conduite par les chocs positives de la production du café au Brésil.

Nos résultats sont en conformité avec Kruger (2007) pour le Brésil et la Turquie. Il y a deux effets différents des conditions de marché amélioré de travail sur le travail des enfants. En particulier, la scolarité augmente pendant les crises économiques en Turquie. C'est parce que les opportunités de travail chutent et ainsi, la scolarité peut augmenter.

La taille relative de ces effets est susceptible de dépendre des caractéristiques du ménage et de l'enfant. Par exemple, le niveau du revenu domestique est susceptible d'influencer la taille relative des effets de revenu et de substitution. De même, la productivité des enfants, réintègre à l'investissement dans leur capital humain et les préférences parentales sur l'utilisation du temps de leurs enfants sont susceptibles d'être différenciés par âge et genre.

Cigno et Rosati (2005) ont souligné les chocs de revenus et les contraintes d'emprunt comme une source d'inefficacité aux allocations de ressources d'une famille. Il est moins probable que les enfants des familles de moindres revenus qui ont un faible accès au marché de crédit soient d'être à l'école en plein temps et plus probable qu'ils travaillent lors d'une chute économique. Beegle et al. (2003) montrent également que les ménages Tanzaniens répondent aux chocs transitoires de revenus en augmentant l'emploi des enfants.

Les enfants expérimentent la pauvreté profondément. Pour cette raison, la pauvreté doit être évaluée pour la perspective des enfants. *“La pauvreté démunie les enfants de leurs droits fondamentaux. La pauvreté grave ou extrême peut causer des dommages permanents sur les enfants physiquement et mentalement, arrêter et tordre leur développement et détruire des occasions de l'accomplissement, y compris les rôles qu'on attend à ce qu'ils jouent successivement dans la famille, la communauté et la société pendant qu'ils vieillissent. La recherche et les données administratives prouvent que l'investissement aux services sociaux fondamentaux pour les enfants est un élément clé pour assurer le succès de réduire leur pauvreté. Il prouve également qu'un niveau minimal des ressources de famille pour permettre à des parents de répondre aux besoins de leurs enfants nécessite même lorsque les familles sont disposées à mettre leurs propres besoins ou les besoins du travail et d'autres réclamations sociales sur eux dans le deuxième endroit. S'il y a des ressources insuffisantes pour satisfaire les besoins des enfants. Des parents durs peuvent être montrés d'essayer - alors ceci peut causer d'autres engagements et rapports avec le croustillant. C'est pourquoi l'UNICEF insiste sur le fait que la réduction de pauvreté commence par les enfants.”* (Gordon et autres 2003)

En raison de l'importance du phénomène de l'emploi des enfants, les pays en développement ont mis en application les programmes éliminant l'emploi des enfants. Les programmes de *Conditional Cash Transfer* (CCT) sont les programmes les plus importants luttant contre l'emploi des enfants. On va illustrer dans cette thèse les schèmes de CCT et évaluer l'impact de CCT sur l'emploi des enfants au Brésil et en Turquie.

Une vaste littérature existe sur ces questions (le lecteur peut se référer à l'OIT, 2007 et à la Banque Mondiale, 2009). On discute l'évidence disponible au sujet de l'impact des arrangements de transfert sur le travail des enfants et l'éducation.

Parmi les vastes programmes de CCT, le programme de Brazil's *Bolsa Familia* peut être considéré comme un initiateur pour l'Amérique Latine et les autres pays en développement (y compris la Turquie). Son assurance de pauvres ménages avait été maintenue.

Les CCT ont été vus comme une manière de réduire l'inégalité et la pauvreté, équilibrant les buts d'aide sociale et le capital humain. C'est parce que, comme la

littérature indique, l'emploi des enfants est une barrière contre le capital humain, la croissance économique et le développement national.

Ces programmes visent à fournir principalement à améliorer le statut éducatif, sanitaire et alimentaire des familles pauvres, en particulier les enfants et leurs mères. Ils aident également à réduire le gap de sexe que l'inscription scolaire évalue (l'inscription des filles est inférieure à l'inscription des garçons au Brésil et en Turquie).

Cardoso et Souza (2004) emploient des données du recensement de population de l'année 2000 pour évaluer l'impact du programme de *Bolsa Escola*. Ils indiquent que les enfants dans les ménages qui ont reçu des transferts monétaires sont de 3-4 pourcent plus probables d'aller à l'école que sont les enfants assortis dans le groupe de vérification. Cependant, l'étude ne trouve aucun effet significatif des transferts conditionnels de monnaie (CCT) sur le travail des enfants.

Au Brésil, selon les résultats obtenus à partir de l'enquête de PNAD, le travail des enfants a diminué et l'inscription scolaire des enfants a grimpé de 1992 jusqu'à 2008. Pour ces raisons, on déduit que les programmes CCT sont significatifs et des investissements réussis pour la scolarité des enfants et pour le capital humain, la croissance économique et le développement.

En Turquie, selon les résultats obtenus à partir des résultats de l'enquête de travail des enfants en 2006, le travail des enfants se trouve évidemment à un niveau élevé. Concernant l'IPEC de l'OIT (programme international sur l'élimination du travail des enfants) en 1992 et la convention signée de l'ONU sur les droits de l'enfance (CRC) en 1994, l'éducation de base obligatoire était prolongée de 5 ans à 8 ans en 1997. Dayioglu (2006) indique que l'éducation obligatoire induit les augmentations à la scolarité des enfants et les déclinés au travail des enfants. Cependant, Tansel (1998) indique qu'il y a encore le problème d'analphabétisme chez les enfants.

D'ailleurs, en raison de la ratification de la convention 138 de l'OIT en 1998 qui définit l'âge minimum pour l'emploi, la Turquie a institué l'âge 15 comme l'âge minimum d'emploi. En outre, la Turquie a mis en application le programme de CCT administré par les fonds sociaux de solidarité sous le ministère principal. Ce programme vise à accroître la scolarité des enfants, à réduire leur probabilité de travailler, à fournir des transferts périodiques de monnaie à condition de l'inscription scolaire des enfants aux pauvres ménages. Un autre programme récemment mis en application est la distribution libre des livres afin de réduire les coûts scolaires qui incitent pour conduire les enfants au travail.

Pour la Turquie, il y a une conclusion spécifique pour le travail des enfants. L'apprentissage induit à la continuité d'être occupé dans l'activité économique à la jeunesse. En outre, le travail dans les jeunes âges (particulièrement pour les garçons) peut être vu comme avantage, parce que ces enfants peuvent s'adapter à la vie professionnelle plus facilement dans leur âge adulte.

En conséquence, quelques structures qu'on a obtenues à partir de deux données micro (PNAD 2008 et CLS 2006) peuvent être combinées: Il est plus probable que les garçons travaillent, et qu'ils sont être occupés sous les formes périlleuses du

travail des enfants. Le phénomène de travail des enfants a des différences régionales, et les enfants dans des secteurs ruraux travaillent davantage sous la forme d'aide familial non-payé; les enfants dans les régions urbaines travaillent comme salariés. Presque tous les enfants travaillent afin de contribuer le revenu domestique. En Turquie, l'apprentissage est très répandu, ces enfants peuvent être exposés au travail en conditions périlleuses dans le lieu de travail. Par exemple, ils peuvent avoir la perte d'audition.

Les programmes de CCT avaient incité à accroître la scolarité au Brésil et en Turquie. D'ailleurs, ces dernières années, le travail des enfants a été diminué au Brésil et en Turquie. Cependant, quelques enfants sont encore engagés en états périlleux de travail et ils ne peuvent ainsi pas aller à l'école.

Cependant, l'évidence sur la relation entre le travail des enfants et les programmes du CCT semble être mixte. Les programmes du CCT ont prouvé l'effective dans l'assistance croissante à la scolarité. Davantage d'évidence sur leur impact sur le travail des enfants doit être recueillie. L'explication commune donnée dans les études est que le programme n'offre pas assez d'incitations monétaires pour décourager la participation des enfants au marché du travail. Ceux programmes de transfert doivent être complétés avec les mesures qui incluent et composent extrascolaire. Davantage d'élimination de travail des enfants dépend des programmes plus spécifiques visés aux groupes particuliers et au secteur économique.

ABSTRACT

In recent years, working children have received considerable attention in international agenda. There is a growing empirical literature analyzing the causes, consequences and determinants of children's work. Children represent future generations; therefore it becomes necessary to conduct studies on the causes, consequences and trends of child labor that may make children dropped out of schooling.

In this thesis, we aim to picture the child labor issue in Brazil and Turkey. Also, we illustrate children's work nature, its determinants, and its consequences education.

Children's work preclude school attendance or to be successful in school scores. Some children are engaged in household work. Some children work as unpaid family worker or wage worker. Male children are more likely to be engaged in hazardous forms of child labor, female children are more likely to be engaged in household chores or domestic work. We use ILO's child labor determinations for which type of activities means "child labor".

On the one hand, all these type of child labor should be seen as a violation of children's right. On the other hand, child labor is a barrier for human capital. For this reason, children's work is an important phenomenon and we examine this issue focusing on Brazil and Turkey.

We use PNAD 2008 survey to understand children's work in Brazil and Child Labor Survey 2006 for Turkey. Also, in Brazil and Turkey, child labor has declined in recent years; we examine these declines with econometric evidence.

Children's work is a joint decision, and is related to poverty, labor market-economic conditions and family preferences. In this thesis, we evaluate the determinants of child labor reviewing literature.

According to child labor literature, child labor has been identified as the persistence of poverty in developing countries. The vulnerability of households to poverty and exposure to shocks has proven to be one of the main factors underlying the decision of households to send their children to work (Edmonds and Pavcnik, 2005).

Generally, it is obviously seen that in countries where stark poverty exists, not sending the children to school in poor families is very prevalent. A negative relationship between family income and child labor is found in several studies.

For example, Spindel (1985), Fausto and Cervini (1991), indicate that child labor is most frequently a result of household poverty. In addition to evidences, Filho

(2008) finds that the relationship between household income and labor participation and school enrolment of rural children aged 10 to 14 in Brazil. Also, Edmonds and Pavcnik (2005) examine the panel data collected during Vietnam's economic boom in the 1990's, and find that 80 percent of the decline in child labor for Vietnam. They indicate that these declines can be explained by improvements in per capita expenditure and the distribution of subsistence levels across households.

Edmonds (2006) compares child labour and schooling in black South African households that are about to receive a large anticipated cash transfer to child labour and schooling in households already receiving the cash. He finds that child labour declines and schooling increases substantially when households begin receiving the anticipated income.

Although all findings results are the same which indicates that poverty is important factor driving children to work, there is a mixed evidence of a link between poverty and child labor. In that context, Barros, Mendonça, and Velazco (1996) find that children's employment tends to be smaller in the poorer metropolitan areas in the Northeast of Brazil and larger in the richer areas in the South. Levison (1991) finds that the highest rates of child labor are not in cities with the highest poverty rates but instead in higher income cities.

Besides the importance of poverty, child labor is closely related to the labor market conditions. Improved labor market conditions have two different effects on children's schooling and work behaviour (for a theoretical model, see Cigno and Rosati, 2005; Kruger, Soares and Berthelon, 2007).

On the one hand, to the extent that better labor market conditions generate higher earning for adults and leisure and/or schooling are normal goods. Thus, children's labor market participation might fall (income effect). On the other hand, better labor market conditions, both in terms of higher real wages (or higher returns to family economic activities) and/or employment opportunities might lead to an increase in returns to work and might induce households to send children to work (substitution effect).

Duryea and Arends-Kuennings's (2003) show that employment rates for 14-16 years old in urban Brazil increase when local labor market conditions improve. In addition to this, Duryea and Arends-Kuennings indicate that the rates of child labor are higher at times and in places where children have better work opportunities as measured by local labor market conditions for the case of Brazil and other Latin American countries.

Also, Kruger (2007) indicates that child labor raises during periods of temporary increases in local economic activity driven by positive coffee production shocks in Brazil.

Our results are in line with Kruger (2007) for Brazil and Turkey. There is two different effects of improved labor market conditions on children's work and school attendance. In particular, school attendance may increase during economic crises in Turkey. Because, work opportunities and wages fall and thus, school attendance may increase.

The relative size of these effects is likely to depend on the characteristics of the household and of the child. For example, the level of household income is likely to influence the relative size of income and substitution effects. Similarly, child productivity, returns to investment in their human capital and parental preferences over their children's time use are likely to be differentiated by age and gender.

Cigno and Rosati (2005) highlight income shocks and borrowing constraints as a source of inefficiency in the allocation of resources within the family. Children from poor households with little access to credit markets are less likely to be in full time school attendance and are more likely to work when hit by economic shocks. Beegle et al. (2003) also show that in Tanzania households respond to transitory income shocks by increasing child labor.

Children experience poverty deeply. For this reason, poverty should be evaluated for children's perspective. *"Poverty denies children their fundamental human rights. Severe or extreme poverty can cause children permanent damage – both physically and mentally stunt and distort their development and destroy opportunities of fulfilment, including the roles they are expected to play successively as they get older in family, community and society. Researchs and administrative data show that investment in basic social services for children is a key element to ensure success in alleviating their poverty. It also shows that a minimal level of family resources to enable parents to meet the needs of their children are required even when families are prepared to put their own needs or the needs of work and other social claims on them in second place. If there are insufficient resources to satisfy children's needs. However hard parents can be shown to try – then this can cause other obligations and relationships to crumble. This is why UNICEF insists that 'poverty reduction begins with children'."* (Gordon et al. 2003)

Because of the importance of child labor phenomenon and poverty, developing countries have implemented the eliminating programs of child labor. Conditional Cash Transfer (CCT) programs are the most important scheme to fight child labor. In this thesis, we illustrate the Conditional Cash Transfer schemes and evaluate the impact of CCTs on children's work and school attendance in Brazil and Turkey.

Among largest CCT programs, Brazil's *Bolsa Familia* program may be seen as a pioneer for Latin America and other developing countries (including Turkey). Its coverage of poor households has been maintaining.

CCTs have been seen as a way of reducing inequality and poverty, balancing goals of social assistance and human capital. Because, as literature indicated, child labor is a barrier for human capital, economic growth and national development.

These programs aim to provide primarily at improving the educational, health, and nutritional status of poor families, particularly of children and their mothers. CCTs also help to reduce gender gap which school enrolment rates (enrolment of female children is lower than the enrolment of male children in Brazil and Turkey).

Cardoso and Souza (2004) use data from the 2000 population census to evaluate the impact of the *Bolsa Escola* program. They indicate that children in households that received cash transfers are 3-4 percentage points more likely to

attend school than are matched children in the control group. However, the study does not find any significant effect of conditional cash transfers on child labor.

In Brazil, according to our results obtained from PNAD survey, children's work has declined and children's school enrolment has increased from 1992 to 2008. For these reasons, it is deduced that Conditional Cash Transfer programs are significant and successful investments for children's school attendance and for human capital, economic growth and development.

In Turkey, according to our results obtained from 2006 Child Labor Survey's results, children's work is obviously at high level. Concerning ILO's IPEC (International Program on the Elimination of Child Labor) in 1992 and signed UN Convention on the Rights of the Child (CRC) in 1994; the compulsory basic education was extended from 5 to 8 years in 1997. Dayioglu (2006) indicates that compulsory education induce to the increases in children's school attendance and to the declines in children's work. However, Tansel (1998) indicates that there is still illiteracy for children.

Moreover, because of the ratification of ILO Convention 138 in 1998 which defines the minimum age for employment, Turkey instituted age 15 as the minimum age of employment. Also, Turkey has implemented Conditional Cash Transfer program administered by the Social Solidarity Fund under the Prime Ministry. This program aims to increase the schooling of children, to reduce their probability of work, to provide receiving periodic cash transfers with conditional on children's school enrolment for poor households. Another newly implemented state program is the free distribution of school books in order to reduce schooling costs which induce to drive children to work.

For Turkey, there is a specific finding for children's work. The apprenticeship induces to the continuity to be engaged in economic activity in early ages. Also, working in early ages (especially for male children) may be seen as an advantage. Since, these children are more likely to adapt to the work life in their adulthood.

Consequently, some of the patterns that we have obtained from two micro data (PNAD 2008 and CLS 2006) may be merged: Male children are more likely to work, and are engaged in hazardous forms of child labor. Child labor phenomenon has regional differences, and children in rural areas are more likely to work as unpaid family worker; children in urban areas are more likely to work as wage earner. Almost all children work to contribute household income. In Turkey, the apprenticeship is very prevalent; these children may expose to work in hazardous conditions in work place. For example, they may have loss of hearing.

According to the results, Conditional Cash Transfer programs have been inducing to increase the school attendance in both Brazil and Turkey. Moreover, in recent years, children's work has been declined in Brazil and Turkey. However, some children are still engaged in hazardous conditions of child labor, and thus they cannot attend school.

However, the evidence on the relation between children's work and CCT programs appears to be mixed. CCT programs have proved effective in increasing school attendance. Further evidence on their impact on child labor needs to be

gathered. The common explanation given in the studies is that the program does not offer enough monetary incentives to deter children's participation in the labor market. These cash transfer programs need to be complemented with measures that include an after-school component. Further elimination of child labor depends on more specific programs targeted at particular groups and economic sectors.

ÖZET

Son yıllarda, çalışan çocuklar uluslar arası gündemin ilgisini çekmiştir. Çocuk işçiliğinin sebeplerini, sonuçlarını ve belirleyenlerini inceleyen ve gitgide artan bir literatür bulunmaktadır. Çocukların gelecek nesilleri temsil etmeleri dolayısıyla, onları okulun dışına iten çocuk işgücünün, sebepleri, sonuçları ve trendlerinin incelenmesi gerekli kılmaktadır.

Bu tezde, Brezilya ve Türkiye'deki çocuk işgücü sorunun profilini çizmeyi amaçlamaktayız. Ayrıca, çocuk işçiliğinin doğasını, belirleyenlerini, eğitim üzerindeki sonuçlarını göstermekteyiz.

Çocuk işçiliği okula katılımı ve okulda başarıyı engellemektedir. Bazı çocuklar hanehalkı işlerinde çalışmaktadır, bazı çocuklar ücretsiz aile işçisi ya da ücretli işçi olarak çalışmaktadır. Erkek çocuklar, çocuk işgücünün tehlikeli formları içinde istihdam edilmeye daha yatkındır, kız çocukları ise ev işi ya da hanehalkı işlerinde çalışmaktadır.

Biz bu tezde, hangi tip ekonomik aktivitenin çocuk işgücü manasına geldiğini kesin ayırmak için Uluslar arası İşgücü Örgütü'nün (ILO) belirlediği çocuk işgücü tanımlarını kullanmaktayız.

Bir yandan çocuk işgücü, çocuk haklarının bir ihlâli olarak görülmelidir. Diğer yandan da, çocuk işgücü beşeri sermaye önünde bir engeldir, bu açıdan incelenmelidir. Bu sebeple, çocuk işgücü önemli bir olgudur ve biz Brezilya ve Türkiye'ye yoğunlaşarak bu sorunu incelemekteyiz.

Brezilya'daki çocuk işgücünü kavramak için PNAD 2008 anketini, Türkiye'deki çocuk işgücünü anlamak için de 2006 Çocuk İşgücü Anketi'ni kullanmaktayız. Ayrıca, Brezilya ve Türkiye'deki çocuk işgücü son yıllarda düşmüştür ve biz bu düşüşü ekonometrik kanıt ile incelemekteyiz.

Çocuk işçiliği karışık bir karardır, ve yoksulluk, işgücü piyasası koşulları, ailenin tercihleriyle alakalıdır. Bu tezde, çocuk işgücünün belirleyicilerini literatürü gözden geçirerek değerlendirmekteyiz.

Çocuk işgücü literatürüne göre, çocuk işgücü yoksulluğun ortaya çıktığı ülkelerde tespit edilmiştir. Yoksulluğun ve şoklara maruz kalmanın, hanehalklarının çocuklarını işe gönderme kararında altta yatan bir sebep olduğu olduğu kanıtlanmıştır (Edmonds ve Pavcnik, 2005).

Genellikle, yoksulluğun görüldüğü ülkelerde, fakir ailelerde çocukların okula gitmemesinin oldukça yaygın olması açıkça görülmektedir. Ailenin geliri ile çocuk işgücü arasındaki negatif yönlü ilişki birçok çalışmada bulunmaktadır.

Örneğin, Spindel (1995), Fausto ve Cervini (1991), çocuk işgücünün, hanehalkı yoksulluğunun sıklıkla rastlanan bir sonucu olduğuna işaret etmektedir. Kanıtlara ek olarak, Filho (2008) kırsal Brezilya'daki 10 ile 14 yaş arasındaki çocukların eğitime ve işgücüne katılımı ile hanehalkı gelir durumu arasındaki negatif ilişkiyi bulmaktadır. Ayrıca, Edmonds ve Pavcnik (2005), 1990'larda Vietnam'ın yaşadığı ekonomik patlama sırasında elde ettiği panel veri ile önceki kanıtları destekleyen bulguları incelemektedir. Edmonds ve Pavcnik (2005) Vietnam'daki çocuk işgücündeki %80lik düşüşün hanehalkları arasındaki varlık dağılımı ve harcamalardaki iyileşmeler ile açıklanabileceğine işaret etmektedir.

Edmonds (2006) Güney Afrika'da nakit para yardımı almaya başlayan aileler ile daha önce nakit para yardımı alan ailelerdeki çocuk işgücüne katılım ve okullaşma oranını karşılaştırmaktadır. Gözle görülür bir şekilde önceden nakit para yardımı alan ailelerde çocukların işgücüne katılımı azalmakta, okula katılımları artmaktadır.

Çocuk işgücü alanındaki bütün araştırmaların sonuçları yoksulluğun işgücünün önemli bir sebebi olduğu yönünde aynı olsa da, çocuk işgücü ile yoksulluk arasında tetatzlık barındıran kanıtlar da bulunmaktadır. Bu bağlamda, Barros, Mendonça ve Velazco (1996), Brezilya'nın daha yoksul kuzeydoğu kesiminde çocukların, güneydeki zengin bölgelerine nazaran daha çok istihdam edildiklerini bulmuştur. Ayrıca, Levison (1991) yoksul şehirler yerine yüksek gelir ile çalışanların çok olduğu şehirlerde çocuk işgücünün fazla olduğunu bulmuştur.

Çocuk işgücünün diğer bir belirleyeni yerel piyasa koşullardır. Yoksulluğun öneminin yanında, çocuk işgücü, işgücü piyasası koşulları ile de yakın ilişki içindedir. İyileşen piyasa koşullarının, çocuk işgücünde ve okula katılımlarda iki türlü etkisi bulunmaktadır (teorik model için Cigno ve Rosati, 2005; Kruger, Soares ve Berthelon, 2007'e bakınız).

Bir yandan, işgücü piyasasının daha iyi koşulları yetişkenler için daha yüksek kazançlar yaratmaktadır, böylece, çocukların işgücüne katılımları artabilir (gelir etkisi). Diğer bir yandan, işgücünün daha iyi koşulları ile, reel ücretleri (ailenin ekonomik aktivitelerinin yüksek getirisi) ve/veya istihdam fırsatları çalışmanın getirisinde artış meydana getirebilir ve bu da ailelerin çocuklarını işe göndermelerine sebep olabilir (ikame etkisi).

Duryea ve Arends Kuennings (2003) Brezilya'nın kent kesimlerindeki 14-16 yaş arasındaki çocukların istihdam oranının yerel piyasa koşulları geliştikçe arttığına işaret etmektedir. Buna ek olarak, Duryea ve Arends-Kuennings (2003) Brezilya ve diğer Latin Amerika ülkelerinde yerel piyasa koşulları ölçüldüğünde, daha iyi iş olanaklarının olduğu zamanlarda ve yerlerde çocuk işgücünün daha yüksek olduğuna işaret etmektedir.

Ayrıca, Kruger (2007), Brezilya'da kahve üretimini olumlu etkileyen şoklar sebebi ile yerel ekonomik aktivitede meydana gelen artışların, çocuk işgücünü arttırdığına işaret etmektedir.

Türkiye ve Brezilya için sonuçlarımız Kruger (2007) ile aynı doğrultudadır. Gelişmiş işgücü piyasası koşullarının çocuk işçiliğinde ve okula katılımda iki farklı etkisi bulunmaktadır. Özel olarak, Türkiye'de ekonomik kriz dönemlerinde okula

katılım oranları artabilmektedir. Çünkü, iş olanakları ve ücretler düşmekte ve böylece okula katılım artabilmektedir.

Bu etkilerin göreceli büyüklüğü hanehalkı ve çocuğun karakteristiklerine bağlı olması muhtemeldir. Örneğin, hane geliri düzeyine, gelir ve ikame etkilerinin göreceli büyüklüğü etkisi muhtemeldir. Benzer şekilde, çocuk verimliliği, beşeri sermayedeki yatırımların geri dönüşü ve çocuklarının zaman kullanımını üzerindeki ebeveynlerin tercihleri de yaş ve cinsiyete göre farklı olması olasıdır.

Cigno ve Rosati (2005), geliri etki eden şokları ve aile içinde kaynak yetersizliğine destek veren kredilere ulaşımı incelemektedir. Yoksul aileler, herhangi bir kriz zamanında daha az kredi olanaklarına sahip oldukları için, bu ailelerin çocukları okula tam zamanlı olarak daha az katılmaktadırlar. Ayrıca, Beegle ve diğ. (2003), Tanzanya'daki hanehalkların geçici şoklara, çocuk işgücünün artmasıyla karşılık verdiğini göstermiştir.

Çocuklar yoksulluğu derin bir şekilde tecrübe etmektedir. Bu sebep ile, yoksulluk, çocukların perspektifinden değerlendirilmelidir. *“Yoksulluk çocukların temel insan haklarını reddetmektedir. şiddetli ya da aşırı yoksulluk çocuklarda kalıcı hasarlara neden olabilir- hem fiziksel hem de zihinsel gelişimlerini bozabilir, onlardan aile ve toplum içinde, büyüdükçe başarıyla oynaması beklenen rolleri de dahil olmak üzere, bu hasarları telafi etme olanakları yoktur. Araştırmalar ve idari veri, çocuklar için temel sosyal hizmetlerdeki yatırımlarda ve onların yoksulluğunun azaltılmasında başarı sağlamanın gerekli olduğunu göstermektedir. Ayrıca, aile kaynaklarının, minimum seviyede çocuklarının ihtiyaçlarını karşılamak için ve ailelerin kendi ihtiyaçlarını ya da diğer sosyal ihtiyaçlarını karşılamak için yetiyor olması gerekmektedir. Yetersiz kaynaklar, çocukları tatmin etmezse, çocuklar çöküntü içinde olmaktadır. Ancak, bu çökmeye diğer yükümlülükleri ve ilişkileri de neden olabilir. Bu, UNICEF'in 'yoksulluğu azaltma, çocuk ile başlar' konusunda ısrar etmesinin nedenidir.”* (Gordon ve diğ., 2003).

Çocuk işgücünün önemli bir olgu olması sebebi ile, gelişmekte olan ülkeler çocuk işgücü ile mücadele programları kurmuşlardır. Koşullu Nakit Transferleri çocuk işgücü ile mücadelede en önemli projedir. Bu tezde, Brezilya ve Türkiye'deki koşullu nakit transferleri projelerini göstermekteyiz, ve çocuk işçiliğinin okul katılımındaki etkilerini değerlendirmekteyiz.

Geniş çaptaki koşullu nakit transferleri arasında, Brezilya'nın *Bolsa Familia* programı Latin Amerika ve Türkiye de dahil olmak üzere diğer gelişmekte olan ülkeler için öncü olarak görülebilir. Yoksul aileleri kapsayıcılığı hâlâ devam etmektedir.

Koşullu nakit transferler yoksulluk ve eşitsizliği azaltan, sosyal yardım ve beşeri sermayeyi deneyeleyen bir yol olarak görülmüştür. Çünkü, literatürün işaret ettiği gibi, çocuk işgücü beşeri sermaye, ekonomik büyüme ve ulusal kalkınma önünde bir engeldir. Bu programlar yoksul ailelerin özellikle kadın ve çocukların, eğitim, sağlık ve beslenme durumlarında iyileşme sağlamayı hedeflemektedir. Koşullu nakit para yardımları okul katılımındaki cinsiyetler arası farklılığın azaltılmasına da yardım etmektedir (Brezilya ve Türkiye'de kız çocuklarının okullaşma oranları erkek çocukların okullaşma oranından daha azdır).

Cordosa ve Souza (2004), *Bolsa Escola*'nin etkilerini değerlendirmek için 2000 yılına ait veri setini kullanmaktadır. Brezilya'da nakit para yardımı alan ailelerin çocuklarının, kontrol grubu ile karşılaştırınca 3-4 kat daha fazla okula katılmaya meyilli olduklarına işaret etmektedirler. Ancak, Cordosa ve Souza'nın çalışması nakit para transferlerinin çocuk işgücü üzerinde anlamlı bir etkisi olduğunu göstermemektedir.

Brezilya'da, PNAD'dan elde ettiğimiz sonuçlara göre, çocuk işçiliği 1992-2008 arasında düşmüştür, çocukların okula katılımları ise artmıştır. Bu sebeplerle koşullu nakit para yardımlarının okula katılımı, beşeri sermaye, ekonomik büyüme ve kalkınma için önemli ve anlamlı yatırımlar olduğu sonucu çıkarılmaktadır.

Türkiye'de, 2006 Çocuk İşgücü Anketi'nden elde ettiğimiz sonuçlara göre ise, çocuk işgücü yüksek düzeydedir. 1992 yılında ILO'nun IPEC'i (çocuk işgücünün yok edilmesi için Uluslararası Program) Çocuk Hakları ile ilgili olarak, 1994 yılında da BM ile imzalanan sözleşme sayesinde zorunlu eğitim, 1997 yılında 5'ten 8 yıla uzatıldı. Dayıoğlu (2006) zorunlu eğitimin, çocukların okula devamlarında artışlara ve çocuk çalışmalarında düşüslere sebep olduğunu göstermektedir. Ancak, Tansel hâlâ çocuklar arasında okuma yazma bilmeyenlerin ve cehaletin olduğunu göstermektedir.

Ayrıca, 1998 yılında, minimum çalışma yaşı için tanımlayan ILO'nun 138 nolu sözleşmesi ile Türkiye 15 yaş istihdam için asgari yaş olarak belirledi. Ayrıca, Türkiye, Başbakanlık dahilindeki Sosyal Dayanışma Fonu tarafından yönetilen Şartlı Nakit Transfer Programı'nı uygulamaya koydu. Bu program, yoksul hanehalklarının çocuklarının okullaşma oranlarını artırmayı, onların işe girme olasılığını azaltmayı amaçlamakta ve bunu koşullu dönemsel nakit transferleri ile sağlamaktadır. Başka bir yeni uygulamaya konan devlet programı da çocukları çalışmaya iten eğitim maliyetlerini azaltmaya yönelik okul kitaplarının ücretsiz dağıtımıdır.

Türkiye için, çocuk işgücü adına özel bir bulgu bulunmaktadır. Çıraklık, çocuklarda ekonomik faaliyetlere erken yaşlarda başlamaya yol açmaktadır. Ayrıca, özellikle erken yaşlarda çalışmaya başlamak (özellikle erkek çocukları için) bir avantaj olarak görülebilmektedir. Çünkü, bu çocuklar yetişkinliklerinde çalışma hayatına daha kolay uyum sağlamaktadırlar.

Sonuç olarak, iki mikro veriden (PNAD 2008 ve CLS 2006) elde edilen sonuçlar birleştirilebilir: Erkek çocukları çalışmaya daha meyillidir, ve çocuk işçiliğinin tehlikeli formları ile meşgul olmaktadır. Çocuk işçiliği olgusu bölgesel farklılıklar göstermektedir ve kırsal alanlarda yaşayan çocuklar ücretsiz aile işçisi olarak çalışmaya daha meyilli, kentsel alanlarda yaşayan çocuklar ise ücretli olarak çalışmaya meyillidir. Hemen hemen tüm çocuklar, hane gelirine katkıda bulunmak için çalışmaktadır. Ayrıca, Türkiye'de, çıraklık çok yaygın olduğu için bu çocuklar tehlikeli koşullarda çalışmaya maruz kalabilmektedir. Örneğin, çocuklarda işitme kaybı olabilmektedir.

Elde ettiğimiz sonuçlara göre, hem Brezilya ve hem Türkiye için Koşullu Nakit Transferleri çocukların okula katılımlarında artışlar meydana gelmesine sebep olmuştur. Üstelik, son yıllarda çocuk işgücü Brezilya ve Türkiye'de düşüş eğilimi göstermektedir. Ancak, bazı çocuklar hâlâ daha çocuk işgücünün tehlikeli formları ile meşgul olmaktadır, ve böylece okula katılamamaktadırlar.

Ancak, çocuk işçiliği ve Koşullu Nakit Transfer programları arasındaki ilişki üzerine olan kanıtlar karışık gibi görünmektedir. CCT programlarının okula katılımı artırmada etkili olduğu kanıtlanmıştır. Çocuk emeği üzerindeki etkileri hakkında daha fazla kanıtın elde edilmesi gerekmektedir. Çalışmalarda verilen ortak açıklama, bu programların çocukların işgücü piyasasına katılımını caydırmak için yeterli parasal teşvikler sunmamasıdır. Nakit transfer programları, okul sonrası bileşen içeren önlemler ile tamamlanabilir halde olması gerekir. Çocuk işçiliğinin ortadan kaldırılması, daha fazla özel programlar ile belli gruplar ve ekonomik sektörün hedef alınmasına bağlıdır.

1. INTRODUCTION

Children are engaged in employment, and work with low earnings in hazardous conditions (UNICEF). These poor job prospects will continue into adulthood and will preclude full time school attendance. Thus, working children will have less opportunity to develop their human capital which has positive impacts on economic growth.

Generally, children's work decisions are closely associated with their parents. (Basu and Van, 1999). More likely to be poor, these adults are also more likely to have to depend on their children's labor income as a household survival strategy. Thus the child labor-poverty cycle perpetuates. Family background is also an important motivation for children's work and is related to socio-cultural norms of each country.

Children are involved in so-called unconditional worst forms of child labor. Moreover, some of children do not belong to a household, having either run away or been abandoned, orphaned, displaced or even sold. Some of them are engaged in household work, or are engaged in employment and schooling together. In order to answer the addressed question: what types of children's productive activity should be considered, and in what settings, we explain and use 'child labor terminology' determined by ILO. Using ILO's definitions on child labor, we examine children's work and schooling in Brazil and Turkey.

According to UNICEF, millions of children experience poverty; therefore, we illustrate the impact of poverty regarding world's children. And then, we evaluate the determinants of child labor reviewing literature to understand child labor phenomenon. Focusing on Brazil and Turkey, we also illustrate The Cash Transfer Schemes conducted for fighting child labor. Using econometric evidence obtained

from micro data for both Brazil and Turkey, we explain why children's work has declined in recent years. We conclude the study emerging important patterns obtained from the countries.

2. CHILD LABOR TERMINOLOGY

There is a common opinion in high-income countries: child labor seems as a form of child abuse in developing countries. Children are engaged in hazardous conditions of child labor. Which type activities of children's work is "Child Labor"? Most of working children are at home in order to help domestic chores, while their parents participate wage work or work at own farms or they work with their parents in family establishments. These forms of child labor under these conditions are named as a domestic work.

First of all, legal and statistical definitions are distinguished clearly. "Child Labor", "Worst Forms of Child Labor" and "Hazardous Forms of Child Labor" are defined in the legal framework by International Labor Organization (ILO).

Following the lines of ILO Conventions 138 and 182: *"all economic activity done by children until age 11; all economic activity done by children aged 12 to 14, excluding permitted "light work" in the sense of Convention 138; all economic activity carried out under hazardous conditions by children aged 15 to 17, and "the worst forms" of child labor carried out under age 18 are defined as 'Child Labor'".* These definitions provide the essential legal framework for all national and international action related to child labor. In this thesis, we use child labor term and all economic activity done by children, regarding ILO's definitions.

ILO Convention No. 138's 2nd article and 3th paragraph also defines a standard about "Minimum Age" for employment. Following to this point, the standards are *"at least 15 years of age and a higher minimum age of not less than 18 years for employment. But one after paragraph (article 2, paragraph 4) the exception of a lower minimum age of 14 years is specified for countries have insufficient economy and educational facilities".*

In addition to ILO Convention No. 138's definition, "Light Work" is permitted for children aged between 13 and 15 years. However, there is a condition which indicates that the work is not likely to be harmful to their health or development and not to prejudice their attendance at school.

Convention No. 182 also comprises the "Worst Forms of Child Labor" which include the forms of slavery-similar to slavery (bondage and serfdom), such forced or compulsory labor, using for the production of pornography-pornographic performances (persons below 18 years of age), working likely to harm the health, safety or morals of children.

Moreover, there is the definition of children in employment derived from the System of National Accounts (SNA) (Rev. 1993). This definition indicates the international statistical standards for the measurement of the market economy. It covers children in all market production and in certain types of non-market production, including production of goods for own use. It includes forms of work in both the formal and informal sectors, as well as forms of work both inside and outside family settings.

Hazardous employment is a very important characteristic of child labor. Children are involved in hazardous forms of employment. As indicated in ILO Convention No. 182, hazardous forms of employment are one of the sub-groups of child laborers, and these forms are the most harmful type of employment for children.

Table 2.1: Worst Forms of Children's Work in the World

Worst Forms of Children's Work	
Child Abuse	1.2 million
Children as Slave	5.7 million
Children in War	300 thousand
Children in Pornography	1.8 million
Children in Illegal Activities	600 thousand

Source: Every Child Counts New Global Estimates on Child Labor, ILO, April 2002

Moving from these official definitions, according to ILO (2000), there were almost 352 million economically active children aged 5-17 years in the world. About 60% of them were less than 14 years old. Moreover, two years later, the ILO has estimated that an additional 8.3 million children are exposed to the unconditional worst forms of child labor.

Table 2.2: Working Children in the World

Age Group	Number of Children	Working Children	Percent
5-9	600.200	73.100	12.2
10-14	599.200	137.700	23.0
5-14	1.199.400	210.800	17.6
15-17	332.100	140.900	42.4
Total	1.531.100	351.700	23.0

Source: Every Child Counts New Global Estimates on Child Labor, ILO, April 2002

Table 2.3: Working Children in 2002

Age	Working Children (million)
Developed Countries	2,5
Developing Countries	2,4
Asian-Pacific	127,3
Latin Americas	17,4
Sub-Saharan Africa	48,0
Middle-East and North Africa	13,4
Total	211,0

Source: Every Child Counts New Global Estimates on Child Labor, ILO, April 2002

2.1 Child Poverty

Millions of children are severely deprived of nutrition, water, sanitation facilities, access to basic health-care services, adequate shelter, education and information. Gender discrimination is both a visible outcome and an underlying factor of severe deprivation. Even in countries where absolute deprivation is low, relative deprivation in terms of family income and wealth implies unequal opportunities for children (UNICEF, World's Children, 2005). In addition to these dramatic situations, Kassauf et al. (2001) and Guiffrida et al. (2001)'s and Rosati and Straub (2007) observe that working children face more serious health problems than others in their adulthood.

Poverty has important results on child labor. However, the measurement of poverty is confused and complex. Poverty is defined as a human condition, characterized by the sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights. According to the UN Economic and Social Council (1998) poverty is described as: *“Fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and cloth a family, not having a school or clinic to go to, not having the land on which to grow one’s food or a job to earn one’s living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living on marginal or fragile environments, without access to clean water or sanitation. (UN Economic and Social Council, 1998)”*.

Children living in poverty face deprivations of their rights: survival, health and nutrition, education, protection from harm, exploitation and discrimination. Over 1 billion children are severely deprived of at least one of the essential goods and services they require to survive, grow and develop. Millions of children are severely deprived of nutrition, water, sanitation facilities, access to basic health-care services, adequate shelter, education and information. Gender discrimination is both a visible outcome and an underlying factor of severe deprivation. Even in countries where absolute deprivation is low, relative deprivation in terms of family income and wealth implies unequal opportunities for children (UNICEF, 2005).

“Child Poverty” covers these all situation children face. Moving from this framework, child poverty should be considered as a human right issue. The measurement of child poverty is based on internationally agreed definitions arising from the international framework of child rights (Gordon et al., 2003). However, firstly, the definition of child poverty should be “unambiguous” in order to eliminate this issue.

UNICEF proposes the following working definition of child poverty: “Children living in poverty experience deprivation of the material, spiritual and emotional

resources needed to survive, develop and thrive, leaving them unable to enjoy their rights, achieve their full potential or participate as full and equal members of society.”

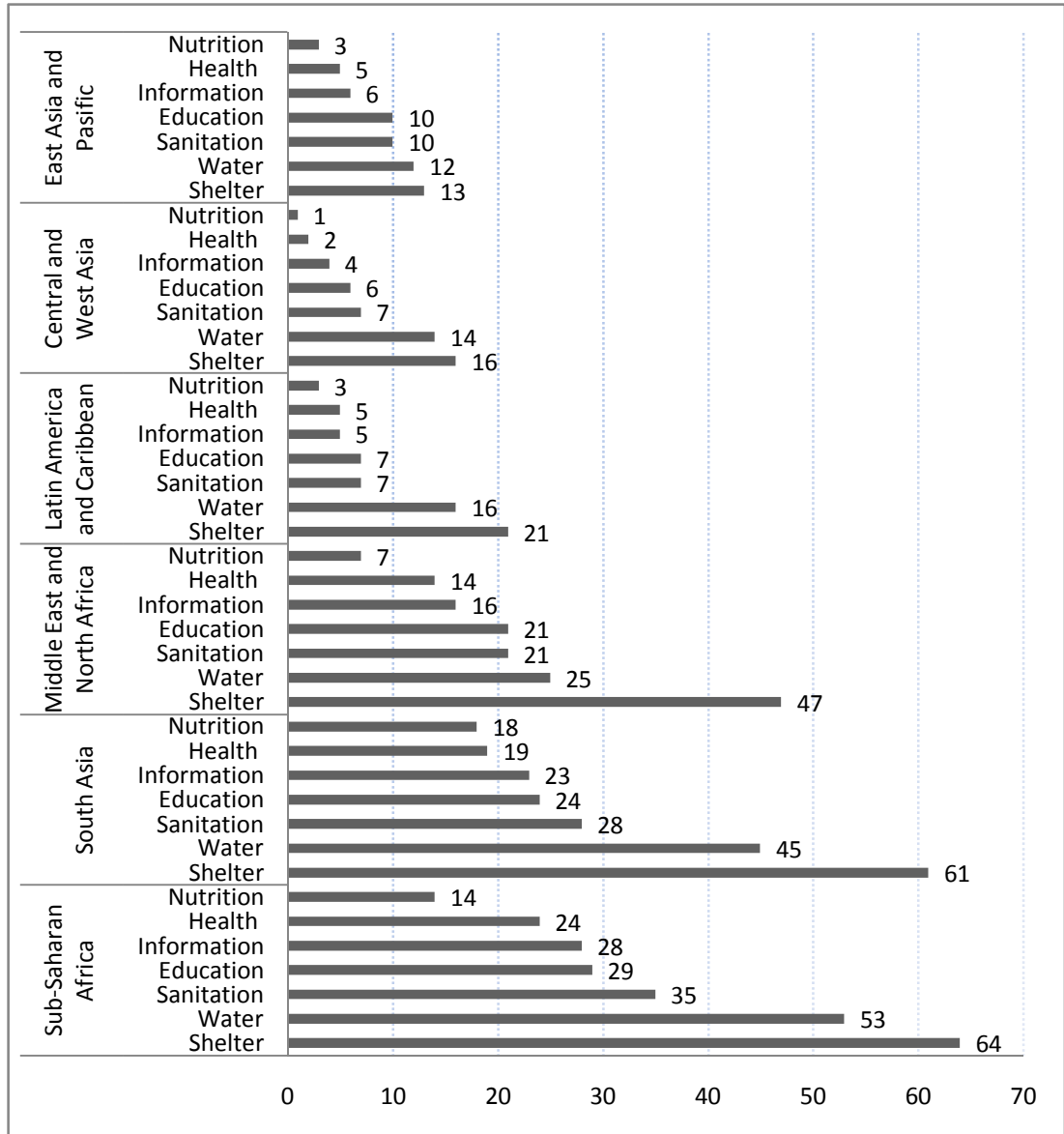


Figure 2.1: Percentage of total children (under 18)

Source: UNICEF, The State of The World’s Children: Childhood Under Threat, 2005

It is clearly seen that child poverty should not be considered only in terms of family income, it also should be based on how children experience poverty. 1989 Convention on the Rights of the Child gave momentum to effective work to reduce violations of a number of rights relevant to the reduction of child (Gordon et al, 2003).

3. DETERMINANTS OF CHILD LABOR: REVIEW OF LITERATURE

Over the past decade child labor has received increasing attention on the international agenda. There is a growing empirical literature analyzing the determinants of child labor. Thus, understanding of the complexity of the child labor phenomenon has improved.

In order to understand child labor, its determinants have a need to be clearly analyzed with variety of causal factors (economic, cultural, and social). This section aims to describe this literature.

Firstly, we start by focusing on the relationship between child labor and household income. The vulnerability of households to poverty and exposure to shocks has proven to be one of the main factors underlying the decision of households to send their children to work. Secondly, we focus on the impact of shocks on children's labor supply. Lastly, we focus on the role of labor market conditions on children's employment and schooling behavior. As it has been increasingly recognized household vulnerability plays a relevant role, besides poverty and shocks.

3.1 Poverty and child labor

Fundamentally, child labor may be seen as a symptom of poverty. Child labor has been identified as an important determinant of the persistence of poverty in developing countries. Children coming from poor families are more likely to work (Edmonds and Pavcnik, 2005). Also, in countries where stark poverty exists, not sending the children to school in poor families is very prevalent.

According to a recent World Bank study, increases in per capita incomes can explain almost all of the reductions in worldwide child labor since 1950 (Gunnarsson

et al., 2005). Spindel (1985), Fausto and Cervini (1991), Rizzini and de Holanda (1998) indicate the negative relationship between family income and child labor. These studies emphasize that child labor is most frequently a result of poverty that forces parents to send their children to the labor market.

Using the social security reform as a source of exogenous variation in household income, Filho (2008) identifies the causal effect of changes in household income separately from the effect of differences in unobserved variables that may be correlated with both income and child labor. The Brazilian social security reform of 1991 reduced the minimum eligibility age for rural old-age benefits for men from 65 to 60, increased the minimum benefit paid to rural old-age beneficiaries from 50 percent to 100 percent of the minimum wage, extended old-age benefits to female rural workers who were not heads of households (thereby extending the benefits to the elderly wives of rural workers previously uncovered), and reduced the age at which women are qualified for benefits from 65 to 55. Since this reform provides a source of exogenous variation in benefits that is not correlated with households' demand for human capital investments or the opportunity cost of child work, it can be used to identify the effect of exogenous income transfers on children's outcomes. The study finds evidence to support the relationship between household income and labor participation and school enrolment of rural children aged 10 to 14. Estimates based on data from four rounds of PNAD surveys (in 1989, 1990, 1992 and 1993) indicate that the difference between actual and full school enrolment is reduced by 20 percent for girls living in beneficiary household. Girls' labor participation rates are reduced with increased benefit income, but only when benefits are received by a female elderly. Effects on boys' time allocation are smaller.

Edmonds and Pavcnik (2005) observes the relationship between child labor and poverty-living standards. They use panel data coming from Vietnam (collected during economic boom in the 1990's). They also observe the market work-per capita expenditure relationship. They find that 80 percent of the decline in child labor for Vietnam can be explained by improvements in per capita expenditure and the distribution of subsistence levels across households. In addition to the findings, they indicate that if expenditures improve enough, poverty moves out.

In Edmonds and Pavcnik's (2005) paper, there is a centralized idea which indicates improvements in family incomes may affect child labor. Because of the family's welfare function, when household income increases, family is more likely to pull the children out of work.

There is another study supporting Edmonds and Pavcnik (2005). Beegle et al. (2003) find that children are more likely to work when households experience an unexpectedly poor. When conditions recover, children stop working.

In the same vein, poverty is a very important motivation for children's work in Turkey. Official estimations express that nearly 18 million people or 25.6% of the population of Turkey were living with poverty in 2004. Also, most of working children are from migrant families. These families are still unable to obtain better living standards, their poverty continues in cities. *"They may travel for much of the year in search of low-paid employment in the agricultural sector. These families may expose to live in worst conditions without access to health care centers, education for their children and even water. The numbers of children engaging in street life, they sell small items to passers-by on the streets. According to the 2002 official results, 4.2% of children between the ages of 6 and 14 years of age and 28% of those between the ages of 15 and 17 were estimated to be working in Turkey (UNICEF)."*

Dayioglu (2005) observes that there was an increase in the proportion of children living in poverty in urban areas (from 12,3 to 14,5%) and a drop (from 9,4 to 8,9%) in rural areas. She emphasizes there are minor changes which mean that urban areas records substantial increases in the proportion of working children and school drop-outs living in poverty. It appears that children start working, because they drop out of school because they need to work.

Dayioglu (2005) finds that working children make a significant contribution to household income (*"the annual earnings of children make up 21.6 percent of the total earnings of the child and his/her parents and 13.3 per cent of household income"*).

Dayioglu indicates the relationship between poverty and work in rural areas explaining by the conjecture and socio-cultural norms. Dayioglu says that in rural areas children naturally become part of the economics production process as they grow into adulthood. She also mentions children in rural areas are more likely to work, and thus, there may be declines in school attendance for rural. Because, Erturk (1994) says that children in rural integrate into economic activities easier than others because of being born and raised in agricultural work.

Although the results indicate that poverty is important factor driving children to work, there is a mixed evidence of a link between poverty and child labor. As indicated, there are studies on the link between poverty and child labor that try to answer the question of what happens to child labor as income improves. However, an intrinsic problem in the studies analyzing the link between economic status and child labor is that poor households differ from rich households in many ways and these ways might be associated with child labor. Disentangling these omitted factors from causal relationship is difficult. On the other hand, whether poverty is indeed the sources of the child labor problem or not, is still argued issue by economists. There are attractive findings supporting this question in minds. Improvements in household income may induce to increases in employment opportunities for children within in their households, thus, child labor may increase. Barros et al (1994) analyze the data coming from in the metropolitan areas of Brazil. The findings indicate that child labor is higher during periods of low poverty and high economic growth, rather than during periods of economic shocks or recessions and high poverty. Barros and Kruger (2006) observe that children are more likely to work during periods of improved economic conditions in Brazil and Nicaragua.

The theoretical and empirical literature on child labor are not well equipped to explain this wealth paradox, as indicated in Bhalota and Heady's (2003) paper. In Pakistan and Ghana, Bhalotra and Heady indicate that children of land-rich households are often more likely to be in work. They emphasize that there is more child labor in wealthier families. On the other hand, the ownership of a productive land has negative and opposite effects. The negative effect is that landholdings make it easier for households to forgo the children's income. Dayioglu (2006) express children coming from families have the greater amounts of land holdings are more

likely to work even these families face an individual or economic shock in urban Turkey.

Levison (1991) indicates that the highest rates of child labor are not in cities with the highest poverty rates but instead in higher income cities. Barros et al. (1996) show that children's employment is low in the poor metropolitan areas in the Northeast of Brazil and high in the rich areas in the South. Despite the fact that the proportion of poor is more than 40 percentage points higher in Recife than in Curitiba, for example, children's employment is four percentage points lower in Recife. Barros et al. (1994) note also that the years with the highest poverty rates in Brazil are not necessarily the years with the highest rates of child labor. These findings suggest that the child labor problem is more severe in regions with better work opportunities.

3.2 Shocks and child labor

All individuals, households and communities are vulnerable to multiple risks from different sources. These shocks are natural (such as earthquakes, flooding and illness) or man-made (such as unemployment, environmental degradation and war) and hit individuals, communities, and regions. Moreover, the shocks are mostly in an unpredictable manner or cannot be prevented, and therefore, they cause and deepen poverty.

The theoretical literature on child labor (Baland and Robinson, 2000; Cigno and Rosati, 2005) highlights income shocks and borrowing constraints as a source of inefficiency in the allocation of resources within the family. The shocks affect access to credit, access to insurance, and household expectations about future returns on children's schooling. Children coming from poor households with little access to credit markets are less likely to be in full time school attendance and are more likely to work when hit by economic shocks.

In Guatemala, when households hit by shocks, children's full time school attendance reduce and children's work increase (Guarcello et al., 2009). According to

the Guarcello et al. (2009), the rate of children in employment increases 5.5 percentage points with a collective shock (earthquakes; floods, fires, etc).

Table 3.1: Multinomial Logit Model & Marginal effects obtained from data in Guatemala

	Work only	School only	Work and school	No activities
Collective shock	0.004	-0.020*	0.044**	-0.028**
Individual shock	0.011**	-0.041**	0.039**	-0.009

Notes: **statistically significant at the 1% level. *statistically significant at the 5% level. ‡ statistically significant at the 10% level

The control variables include: the age of the child and its square; a gender dummy; a dummy variable taking value 1 if the child belongs to an indigenous household; the number of the household members; the number of children aged 0-5 in the household and the number of school age children; an interaction term between gender and the presence of young siblings; and a series of dummy variables for the education of the mother and of the father.

Source: Guarcello et al., 2009

Individual shocks (loss of employment, bankruptcy, etc.) have a similar overall effect as collective shocks. Even if some of these students continue to attend to school, individual shocks induce to the increases in children's labor participation.

Guarcello et al. (2008), using data from Cambodian villages, find that crop failure increases the probability that a child enters the labor force and drops out from school. The following graph illustrates the differences in the incidence of children's work according to whether a village has been hit by a shock and by the type of shock. Children's work appears to be higher in villages hit by a shock.

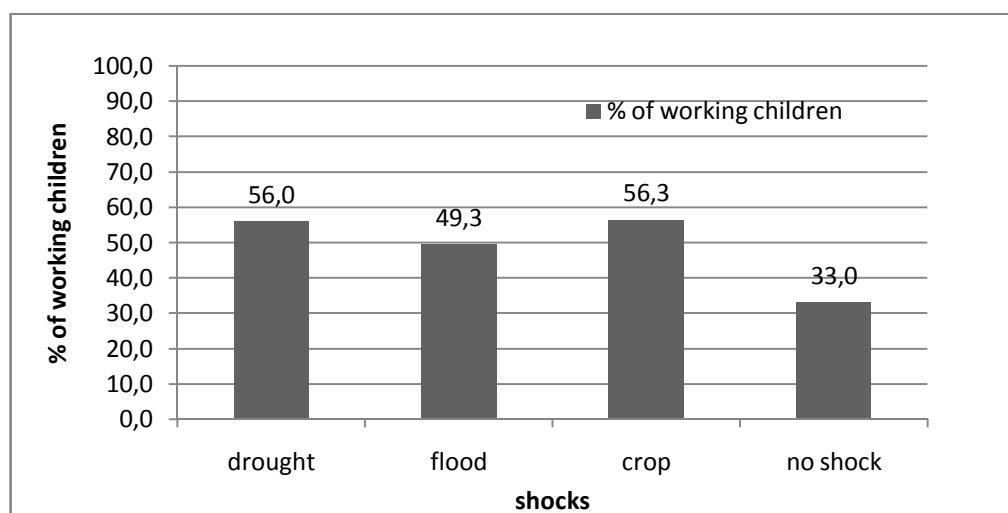


Figure 3.1: Working children by type of shocks

Source: Guarcello et al., 2008

Beegle et al (2003) also show that in Tanzania households respond to transitory income shocks by increasing child labor. For instance, a one standard deviation income shock is associated with a 10 percent increase in the mean hours children spend at work during the reference week.

Focusing on the Brazilian devaluation and consequent nominal exchange rate variations, Rucci (2003) identifies the effects of macro shocks during Argentina crisis. These macro shocks created liquidity constraints. Children were dropped out of school to work in order to smooth family's total income. This major strategy might be seen a possible behavioral to smooth the effects of an economic crisis for families.

Rucci (2003) finds that shocks and specially crisis affect children's schooling, and observes that children with lower educated parents are more affected. In Argentina during the 90s, the crisis interrupted school attendance. The crisis caused the disappearance of credit forms for poor families.

Table 3.2: Effect of income shocks in Argentina (instrumented by Brazilian nominal exchange rate) on school attendance and availability to work

Age group	Sex	Attending School		Availability to work	
		Marginal effect	Standard	Marginal effect	Standard

			error		error
12-13	Male	0.006	0.012*	0.030*	0.012
	Female	-0.004*	0.005*	0.013*	0.004
14-15	Male	-0.085**	0.005	0.093**	0.007
	Female	-0.060*	0.029	0.064‡	0.034
16-17	Male	-0.053**	0.014	0.053‡	0.031
	Female	-0.033‡	0.020	-0.018	0.016

Notes: **statistically significant at the 1% level. *statistically significant at the 5% level. ‡ statistically significant at the 10% level

Source: Rucci, 2003

Because of borrowing constraints during crisis, children's school attainment diminishes and this induced to the declines in human capital. The crisis could have caused a fall in real incomes, given the absence of credit markets, changes in educational demand. Changes in demand for education may have long-run consequences at the household level and low school attendance among children from poor families.

Thomas et al. (2001) find that the Indonesian crisis has an extremely negative effect on school attendance among the poor children. Jakoby (1995) indicates that borrowing constraints cause to withdraw from school to work in order to smooth household consumption for children in Peru.

Kruger et al. (2007) concentrate the analysis on Brazil's coffee producing regions and rural areas. Controlling for family income and wealth, they are able to distinguish between the effects of family income and increased demand for child labor which due to shocks to local economic activity. They find that conditional on family wealth, on long-term growth, exogenous shocks to local economic activity are associated with increased child labor and reduced schooling. They also find that

household characteristics are associated with higher income and wealth or to less dependence on child's income.

Blanco and Valdivia (2006) observe the economic downturn in Venezuela (2002-2003). They find the number of children who work increased by almost five percentage points from 2000 to 2003.

Several empirical studies examine the effect of negative shocks to household income on children's work participation and school attendance in Brazil. The question of whether economic shocks have an adverse impact on children's time allocation decisions is especially pertinent now, at times of a real and financial crisis that are likely to produce large and possibly lasting worldwide adverse impact (Ferreira and Schady, 2008; UCW, 2009). The economic and financial crisis can potentially reverse the positive trends observed in Brazil and deepen even further the problem in some regions of the country, like in the Northeast, where the phenomenon of child labor has been particularly resilient. In what follows, we briefly discuss available evidence on the effects of transitory income shocks on children's schooling and involvement in child labor in Brazil.

Taking a longitudinal employment survey (Pesquisa Mensal de Emprego – Monthly Employment Survey) from six metropolitan areas of Brazil for the period 1982 to 1999, Neri et al. (2005) assess the effects of adverse shocks to household head's occupational status (measured by earning losses) on children's labor participation and drop-out probabilities. Their empirical model allows the impact of transitory economic shocks to differ by household income status. Logistic estimates show that following a loss of earnings by the household head, children's probability of drop-out and labor market entry increases in poorer households. Children's time allocation in higher-income households remains or largely unaffected by such a shock.

A different estimation strategy using the same dataset is found in the study of Duryea et al. (2007) that incorporates a wider range of household characteristics. Probit regression results suggest that an unemployment shock to the male head of household occurring during the school year has substantial negative effects on

children. These shocks increase the probability that children enter the labor force and that they drop out of school, and decrease the probability that they advance in school. In the same vein, previous research using the same data by Duryea (1998) finds that children are less likely to advance to the next grade if their father becomes unemployed during the school year.

In the same vein, shocks are important determinant in Turkey. A major crisis has occurred every five years until recently, and thus, unemployment rate in 2001 has risen to 20 percent. Because of the impact of inflation, the purchasing power of most families has reduced in Turkey (Government of Turkey and UNICEF 1998). The crisis has induced to poor families which were exposed to more unequal income distribution. Families were exposed to the hardest hit: households living in poverty were estimated to be around 30 per cent in the mid-1990s. According to official estimates (2001) poverty was around 50 percent. The living under very difficult economic circumstances has induced to suffer from the greatest brunt of deprivation for children (Libal, 2001).

Bakirci (2002) indicates that because of several financial crises causing recessions, unemployment rate rises and income distribution get great imbalance, become more unequal with crisis. She underlines that the picture may pull children to work which contribute to the family income. Anyhow, in Turkey, many children start working in order to contribute to family budget when they have finished their primary school education.

3.3 Child labor and labor market conditions

The effects of labor market conditions are an important component of the child labor puzzle. How can labor market conditions affect child labor? There is a prevalent idea that education is the connection. Poor youth employment prospects can serve as a disincentive to investment in children's education. When there are few opportunities of productive and decent work, the child reaches the minimum working age and the transition from school to work is lengthy, parents might have less incentive to forego the opportunity cost of child labor and invest instead in their children's schooling.

There is a centralized idea which indicates that children are also more likely to drop out of school when local labor market conditions become more favorable.

The effects of macroeconomic fluctuations on children's schooling and work behavior are examined by focusing on the income effect or substitution effect. The prevalent idea on effects is that better labor market conditions may generate higher earning for adults. Improvements in household income or adult earnings may induce to children's schooling. Therefore, children's labor market participation may fall. This is associated with income effect.

Better labor market conditions, both in terms of higher real wages (or higher returns to family economic activities), employment opportunities may lead to increases in return of working. Thus, children's schooling may fall. This means that there is a substitution effect.

Levison (1991) indicates that children are more likely in cities with flourishing labor markets than in cities with high poverty in the case of Brazil. Moreover, the importance of labor market conditions is seen in Duryea and Arends-Kuennings' (2003) paper. They show that employment rates for 14-16 years old in urban Brazil increase as local labor market conditions improve. Duryea and Arends-Kuennings indicate that child labor are higher at times and in places where children have better work opportunities as measured by local labor market conditions. When children face favorable work conditions, the opportunity cost of schooling increases. In Duryea and Arends-Kuennings' paper, there is another attractive finding during the crisis in Argentina and the recession in Brazil. The attitudes of governments are extremely important. The effect of decreasing work opportunities for children has a stronger effect than the effect of decreasing household incomes, and then children are more likely to stay in school. Otherwise, by lowering the opportunity costs of schooling, the negative impact of a crisis on school enrolment is dampened.

Sadoulet (2005) also mentions that a function of child labor decisions is affected by income and substitution effects. However, to distinguish the income effects and substitution effects of increased child wages is so difficult because of a

lack of variation in wages over time. Another problem is that local wages are correlated with other local unobservable characteristics. Despite these difficulties, Duryea and Arends-Kuennings are able to distinguish between income and substitution effects by using time-varying data from the surveys of the Pesquisa Nacional por Amostra de Domicílios (PNAD). They indicate: *“Deteriorations in labor market conditions that depress family income do not appear to push children into the labor force and out of school because they appear to be offset by declining opportunity costs for children. At the same time as parent’s labor incomes fall, the prospects for children to raise income also fall. This is not to say that these ‘family income’ and ‘own-wage substitution’ effects are always offsetting. Another important policy implication is that the countervailing substitution effect cannot be taken for granted in all types of macroeconomic fluctuations. For example, family incomes could fall due to a sudden collapse in remittances from the United States. But if the Brazilian labor market is little affected by a US recession, the income effect would dominate and children would be expected to work more and attend school at lower rates (Duryea and Arends-Kuennings, 2003)”*.

Edmonds and Pavcnik (2004) find declines in child labor during the liberalization of rice markets in Vietnam. Liberalization of rice markets induced to higher wages paid to both children and to adults.

Moreover, Basu and Van (1998) examine the determinants of child labor in a multiple equilibrium model. They figure out that child labor is both a cause and a consequence of poverty. According to the model, if market is in a good equilibrium, when market wages are high, parents choose not to send their children to work, whereas market is in a bad equilibrium, when wages are low and families are poor, parents send their children into the labor force, children’s labor participation increase.

A relevant body of empirical evidence exists on the effect of local labor market conditions on young children's labor supply and school enrolment in Brazil. For example, Parikh and Sadoulet (2005) present cross-section evidence based on data from the 1992 PNAD survey suggesting that children from areas with high average

adult employment rates are more likely to work than children from areas with low average adult employment rates.

Manacorda and Rosati (2009) examine the impact of local labor demand on work and schooling decisions of children aged 10-15 using PNAD survey data for the period 1981 to 2002. They find that child work tends to be “on average” procyclical, while school enrolment is essentially unaffected by local labor market conditions. As local labor demand conditions improve, children are more likely to combine work and school and are less likely to be inactive. Children respond to improvement in their labor market prospects by increasing their supply of labor to the market in a fashion similar to adults.

Similar effects are observed in the coffee growing areas in Brazil. Based on data from PNAD surveys from 1992 to 1999, Kruger (2007) uses variations in the value of coffee production to proxy changes in local economic conditions. She indicates that child labor increases during periods of temporary increases in local economic activity driven by positive coffee production shocks. Again, the impact of labor market conditions on child labor is differentiated by household income levels. Children of low and middle income households are more likely to be employed and less likely to be in school as a result of higher economic activity, while children of high-income families are not affected from the same economic shock.

Other studies analyze separately the impact of increases in children’s market wages on their labor supply. Using data from 1995 PNAD survey, an earlier study by Kassouf (1998) indicates that the higher the child’s estimated wage, the less likely the child would be in school. Moreover, the higher the child’s estimated wage, the more likely that the child would be employed. Similar results are found in the study of Barros et al. (2001). They focus on 11-to-25-year-old individuals living in urban areas of the Northeast and Southeast regions. Data from 1996-97 PPV and 1996 PNAD surveys allow them to compute an individual expected wage. Results from the PNAD survey data suggest that opportunity costs to households of sending their children to school rather than to work (or “attractiveness of labor markets”) are closely related to lower levels of schooling.

A different estimation strategy using the same dataset is used by Duryea, Lam and Levison (2007) that incorporate a wider range of household characteristics. Probit regression results suggest that an unemployment shock to the male head of household occurring during the school year has substantial negative effects on children. These shocks increase the probability that children enter the labor force and that they drop out of school, and decrease the probability that they advance in school. Shocks occurring after the end of the school year do not have significant effects on the observed outcomes, suggesting that unobserved household heterogeneity that may cause spurious correlations between shocks and negative child outcome is controlled for.

As stated, poor families are more vulnerable to poverty, shocks and worst labor market condition. When these families face an unpredicted shock or unexpectedly they have loss household income, their children engage in economic activity. Thus, child labor increases. In order to fight child labor, governments implemented The Conditional Cash Transfer programs. In the next section, focusing on Brazil and Turkey, we illustrate Cash Transfer Scheme.

4. FIGHTING CHILD LABOR: CASH TRANSFER SCHEME

Conditional Cash Transfer (CCT) programs are important social protection instrument for human capital investment, elimination of child labor and economic growth. CCT programs are seen a way of reducing poverty and the likelihood of future poverty (through behavioral conditions related to the human capital development of children).

CCT programs have become popular in developing countries, especially in Latin American countries. Pioneered by Brazil in the mid-1990s, CCT programs have been most prevalent in Latin America. Then, almost all countries have implemented these programs.

By 2001, cash transfers programs with education conditionality provided support to approximately 200,000 families. All of these programs had key features in common: they were targeted to the poor through means testing; they paid cash to families (usually to women) in exchange for counterpart actions. Most programs also included minimum residency requirements (five years) in the municipality or state, out of fear that the lack of a national program would attract poor migrants to their jurisdictions (Lindert, 2007).

Conditional Cash Transfers in the World: 1997 and 2008

1997



2008

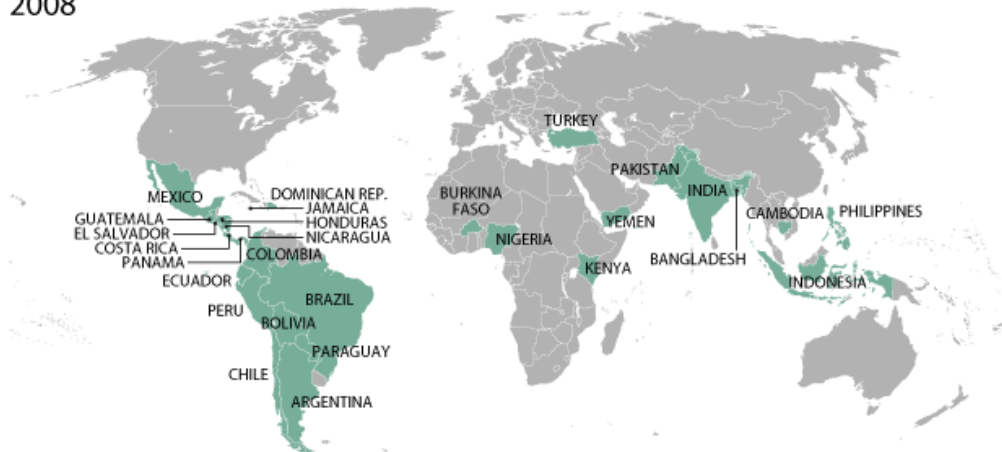


Figure 4.1: Conditional Cash Transfers in the World: 1997 and 2008
Source: World Bank, 2007

In this sub-section, we focus on the framework of Cash Transfer Programs implemented in Brazil in order to eliminate child labor. Then, in other sub-section, we focus on the frameworks of Cash Transfer Program and Compulsory Education which aim to increase children's school attendance and to eliminate child labor in Turkey.

4.1 Cash Transfer Programs in Brazil

After the stagnation during 1980s for Brazil, several Brazilian states and municipalities began to experiment with new forms of social assistance in the mid-1990s. Many changes in educational policy induced to the declines in child labor.

Brazil was the first country to pioneer for CCTs in Latin America. In 1995, two programs (*Bolsa Escola* and the Guaranteed Minimum Family Income Program) were initiated in the *Distrito Federal* and in the *Campinas Municipality*. Over the same period, and with design similar to the *Bolsa Escola* programs, another major Federal Program (*Programa de Erradicação do Trabalho Infantil - PETI*) has been instituted. These programs were seen as a model to spread to other states.

In 2001, *Bolsa Escola* program was scaled up to the national level. *Bolsa Escola* Federal provided female heads of poor households a monthly stipend conditional on their children's regular school attendance. Many aspects of program implementation were delegated to municipal governments, including the identification and selection of program beneficiaries, the monitoring and enforcement of conditionality, and the management of local accountability mechanisms. *Bolsa Escola* program provided to poor families significant transfers. They received R\$15 (US\$7) per month per child up to a maximum of three children with conditional on school attendance of at least 85 percent. By late 2003, *Bolsa Escola* had been implemented in almost all of Brazil's 5,561 municipalities; covering over 8.6 million school aged children from 5 million families (De Janvry et al., 2005).

In 2001, the federal government also initiated *Bolsa Alimentação* (2001), a CCT program for pregnant and lactating women. Program conditionality consisted of complying with a minimum schedule of pre-natal and post-natal care visits, monitoring the growth of children, and keeping their vaccinations up to date, as well as participation in nutritional education seminars. In 2002, the federal government introduced the unconditional cash transfer, *Auxílio Gás* (Cooking Gas Subsidy), intended to support the support of gas for domestic consumption as existing cooking

gas subsidies were phased out. In 2003, Cartão Alimentação (Food Card), a general cash transfer for food consumption to the extremely poor population, was launched.

In 2003, the government of Brazil decided to develop the income transfer programs. *Bolsa Escola* and *Bolsa Alimentação* were combined into a single cash transfer program. The new program was named as *Bolsa Família*. It became the basis of Brazil's social protection system. *Bolsa Família* is managed by the Ministry of Social Development and Hunger Eradication (MDS).

Bolsa Família program included a combination of geographic and household criteria (per capita income). Geographic targeting is applied at both federal and municipal levels. This geographic targeting mechanisms aims at increasing the likelihood that interviewed and registered families are poor.

Bolsa Família program provides two types of benefits. First of all, it aims at poor households. It provides the transfer amount depends on income levels and household composition. *Bolsa Família* provides a base benefit to all families in extreme poverty, regardless of their demographic composition. Both extreme poor and moderately poor families receive a variable benefit according to the number of children in the family and whether the mother is pregnant. With this benefits menu, the extremely poor families receive a fix amount (R\$68) and a variable cash transfer depending on the family composition. For these families, the variable cash transfer of R\$22 per children from 0 to 6 years of age and teenagers until 15 years old, up to three and R\$33 per adolescents from 16 to 17 years old with the condition that they attend school, up to two. The total transfer for the extremely poor families ranges from R\$68 to R\$200 (US\$37-109). Moderately poor families receive the variable cash transfer ranging from R\$22 to R\$132(US\$12-72).

The families enrolled in the *Bolsa Família* program are required to fulfill three conditions: attendance for prenatal and postnatal monitoring, ensuring access to nutrition monitoring for their children from 0 to 7 years old and ensuring school attendance levels of at least of 85 percent for children aged 6 to 15 years and of at least 75 percent for teenagers from 16 to 17 years old. A relevant feature of the program is its focus on the family unit, rather than on the individual or on the

community. By 2009, *Bolsa Familia* had reached 12.4 million families, almost 50 million people, corresponding to a quarter of Brazil's population at an annual cost of over USD 5 billion (0.4 percent of the GDP).

Another strategy in order to eliminate child labor is *PETI* which is launched in 1996. It is designed to withdraw children between 7 and 15 years of age from dangerous, heavy, unhealthy (hazardous) forms of child labor. The program began as a pilot experience implemented in the coal production areas of the State of Mato Grosso do Sul, assisting children who worked in the coal kilns and in the harvest of mate tea leaves, covering 14 municipalities. In 1999, the program had managed to reach over 140,000 children. This program targeted children in the worst forms of child labor by providing a combination of conditional cash transfers to poor households and after-school activities. The transfer is targeted at households with per capita income lower than half the minimum wage, and is conditional on children stopping to work, having a school attendance record of at least 85 percent and participating in a range of after-school activities. The main purpose of after-school activities is to increase the time children and adolescents spend in school, promoting a second shift focusing on culture, play, and art and sport activities complementing regular education. The activities are carried out in the municipal school units or other appropriate locations. The extended school day is meant to prevent children from working, and to provide remedial education and training for future work. Parents are also encouraged to participate in complementary programs, such as PRONAGER (Generation of Employment and Income in Poor Areas Program), in order to improve household income and thus reduce in the long term household dependence on income from child labor.

4.2 Cash Transfer Program and Compulsory Education in Turkey

The important step that has been taken in order to eliminate child labor is the preparation of a "Framework for a Time-Bound National Policy and Program to Eliminate Child Labor". Turkey has launched the 'Conditional Cash Transfer' program with some requirements in 2002.

The "Conditional Cash Transfer" program administered by the Social Solidarity Fund aims to increase the schooling of children and reducing their probability of work. The program provides to poor households to receive the periodic cash transfers.

Because of household's poverty is basic determination of child labor, Cash Transfers to poor households have aimed to combat child labor in Turkey. Dayioglu (2006) emphasizes CCTs can be significant in withdrawing children from the labor market and inre-orienting them toward school. Dayioglu's (2005) highlights -in her previous study- despite unfavorable economic conditions which contains 1994's macroeconomic stability in economics and 1999's earthquake in region of industry, CLS survey results illustrate that the successful improvement in school attendance to be 3.5 percentage points, from 88% in 1994 to 91.5% in 1999.

Despite the eliminating programs, there is gender difference for school enrolment rates in Turkey. According to estimations (2004), the enrolment of primary education was 93 percent for male children, this rate falls to 87 percent for female children. Secondary school enrolment rates were 59 for male children, 50 percent for female children (SIS, 2006). Tansel et al. (2007) indicate that the gender difference in school enrolments appears to point out the importance of gender in the intra-household resource allocation in Turkey.

On the other hand, the rate of dropping out of school increases with age. Some reasons are found for this increase: Some families force their children for early marriage because of traditional attitudes. Female children are forced to engage in domestic chores, most of female children are kept at home to care for younger family members, some of them help with domestic work. *“Urban families keep girls from schools that are often over-crowded and under-resourced. In rural areas, children are far from education opportunities, there is sometimes no road, no electricity, and no water. For this reason, rural families do not prefer to let older girls travel long distances to school by bus. These travel costs are luxury for some rural families; they do not afford the costs of transport, uniforms and stationery (UNICEF).”*

In addition to the process of combating child labor, because of the UN Convention on the Rights of the Child (CRC) signed in 1994, Turkey expanded the compulsory basic education from 5 to 8 years in 1997; and the ratification of ILO Convention 138 in 1998.

The previous system could be increase to pull out of school after primary school. *“Because it was based on a three-tiered structure with 5 years of primary school, 3 years of secondary and 3 years of high school and children were required only to finish the first tier. With the extension of compulsory schooling, the first two tiers were combined, and thus, children stay in school until age 15 (Dayioglu, 2005)”*.

On the other hand, there is still lack in education in Turkey. Tansel emphasizes: although compulsory primary schooling induces improvements in schooling of children, Turkey has still a high rate of youth illiteracy compared to OECD countries. In Turkey, schooling for poor households could be luxury (because the cost of education is high) and thus for these households income effect would be large. Moving this point, *“if schooling is purely an investment good, under imperfect capital markets there will still be a positive association between schooling and income since higher income households are better able to finance the time in school (Dayioglu, 2006)”*

“The relatively smaller impact of transfers can in part be attributed to the fact that we employ a relatively long-term definition of income, whereas the true role of nonwage income might be felt in poor households in the short-run by way of buffering children against financial crisis. If this is so, in an environment of imperfect capital markets, transfers can be used to mitigate the impact of unforeseen events that challenge the welfare of the household and therefore, necessitate the employment of children even if for short durations (Dayioglu, 2006).”

Tansel (1998) mentions that during the past few decades, the industrial composition of employment changed in Turkey. These changes have induced to a decline in the share of agriculture in the industry and the service sectors with a larger rate of growth in the service sector than in the industry. She examines the provincial

percentages of the employment in industry and service sectors. She finds some impacts of the local employment opportunities on schooling. Thus, moving from the estimates on the employment in industry, she underline that if there is an increase in industrial employment, the probabilities of receiving higher schooling will reduce for children.

Child Labor in Turkey should be considered with another perspective: when the sector factors are constant, division of labor based on gender is the another relevant factor in the determinations of children's work (Erturk and Dayioglu, 2004). Also, child and woman labor's opportunity cost is low. Women and children have disordered participation elasticity to labor intensive markets. Male children generally participate to labor markets which contain more opportunity. On the other hand, despite there is no large gender differences in children's work, male children's schooling is more important than female children. However, generally, male children work more under worst form of child labor (Dayioglu, 2006, Translated by Inal, 2010).

4.3 Impact of CCT programs

There is a large body of literature that illustrates the positive impact of CCT programs on children's education and work outcomes.

The analyses from other countries show that in some cases CCT programs have failed to reduce the incidence of child work. For instance, Cardoso and Souza (2004) use data from the 2000 population census to evaluate the impact of the *Bolsa Escola* program. According to the estimates, the study does not find any significant effect of conditional cash transfers on child labor. Hence, increased attendance appears to correspond with a shift from work only to school in combination with work. One possible explanation for this finding is that the income transfer is too small to forgo children's labor income. Similar results suggesting that *Bolsa Escola* does not have an impact on children's employment are also found in the study of Ferro and Kassouf (2005) that uses data from the 2001 PNAD. Most of these studies on *Bolsa Escola/Familia* tend to suggest that conditional cash transfer programs in Brazil are less effective at reducing child labor than they are at increasing schooling.

More recent results seem to indicate some impact of *Bolsa Escola* on child labor. Ferro, Kassouf and Levison (2007) and Ferro and Nicollela (2007) use data from the 2003 PNAD survey to measure the impact of *Bolsa Escola* on children's labor force participation. Both studies argue that beneficiaries may be compared with eligible signed-up families who are not yet getting the benefits (i.e. these individuals have the same propensity to participate and are eligible). Unlike earlier studies, their probit regressions and propensity score matching methods show that *Bolsa Escola* reduces the probability of work for children ages 6-15 for both in urban and rural areas.

PETI in Brazil appears to be the only conditional cash transfer program that explicitly aims at reducing child labor. The objective of the *PETI* program is to eradicate the worst forms of child labor by providing cash grants to families with children of school-going age (7 to 14). *PETI* was first implemented only in a few municipalities in the state of Pernambuco, and later expanded to other states including Bahia and Sergipe. The evaluation was planned after the program started and it was not possible to randomly allocate the municipalities into treatment and control groups. Instead, the treatment group was composed of three participating municipalities in separate states, and the comparison group of three similar municipalities not in the program (Rawlings and Rubio, 2005).

Sedlacek and Orazem (2001) show that as a result of participating in program, the probability of working fell between 4-7 percentage points in Pernambuco, close to 13 percentage points in Sergipe and nearly 26 percentage points in Bahia which has the highest child labor force participation rate. Moreover, *PETI* also decreased the probability of children working in hazardous activities. Nonetheless the program is less successful in reducing the probability of working 10 hours or more. *PETI* appears to succeed better with part-time child workers than with those who work longer hours. Another interesting result is that even though the after-school program was available to all households in *PETI* municipalities, only children in households that received the cash transfer spent significantly more time in school. This suggests that demand incentives may have a relevant role in accelerating behavioral changes.

World Bank (2001b) also offers a positive preliminary evaluation of *PETI*. The qualitative assessments demonstrate that the program has been successful in achieving its objectives of reducing rates of child labor. Pianto and Soares (2003) use the PNAD survey and find that *PETI* reduced child labor and increased schooling between 1997 and 1999. They use two different methodologies: they measure the change from a baseline level in municipalities where *PETI* was introduced and they also match municipalities to form a comparison group. They find that *PETI* has a significant role in reducing child labor.

Recent evidence indicates also that unconditional transfers can have such an effect on child labor. In Ecuador, Edmonds and Schady (2008) show that the Bono de Desarrollo Humano program had very large effects on child work among those children most vulnerable to transitioning from schooling to work. Those effects are concentrated in work for pay away from the child's home. On the other hand, BDH transfers had small effects on child time allocation at peak school attendance ages and among children already out of school at baseline.

Further section uses micro data to examine children's time use patterns in Brazil and Turkey, focusing in particular on the extent of children's involvement in employment and schooling.

5. CHILDREN'S INVOLVEMENT IN EMPLOYMENT AND SCHOOLING IN BRAZIL AND IN TURKEY

5.1 Facts of Children's Employment and Schooling in Brazil

5.1.1 Data

For this thesis, we use the data coming from 2008 Brazilian National Household Survey (PNAD) in order to examine children's time allocation in employment and schooling.

PNAD is conducted nationally throughout Brazil during the month of September of each year. And, it covers entire Brazil containing individual and household socio economic characteristics as well as information on work activity and school enrolment. Thereby, we can analyze children's economic activity and school attendance by considering regional differences.

The data includes information about the involvement in employment. It also provides the hours of employment in the week. We focus on 5-17 years old children's work activity and school enrolments from 1992 to 2008. We consider the child to be employed if he/she has done at least 1 hour of market work in the reference week. PNAD presents that *"children in employment cover all market production, certain types of non-market production consisting the production of goods for own use. It includes forms of work in both the formal and informal sectors, forms of work both inside and outside family establishments (UCW, 2010)."*

5.1.2 The Results

In order to obtain the impact of Conditional Cash Transfers we examine children's work under four categories: children attending school only, working only, working and attending school, and children that do not work in the labor market and do not attend school. These children are inactive or doing nothing. We consider 2008 reference year.

We examine children's activity concerning the characteristics of children's employment. We focus on how children's activity may differ by sex, age, residence and other characteristics. Considering children's modality with sub-groups named wage workers, unpaid family workers, domestic workers and self-employment.

In addition to these, this sub-section will examine differences in working hours. Because, working hours are an important indicator of work intensity and provide striking sights consequences of children's work.

According to our calculations obtained from PNAD, 6.83 percent of children aged 7-15 years; some 2.1 million were in employment in 2008, while school attendance was 97 percent.

Moving from this statistical information, we may deduce that the Conditional Cash Transfers conducted in Brazil have successful framework on children's school attendance and generally reduce significantly the number of children in employment.

In 2008, children's work has declined according to the 1992 reference period. In 1992, children's work was estimated 16.33 percent of 7-15 year-olds; in 2008 this rate is 6.83 percent in same age group.

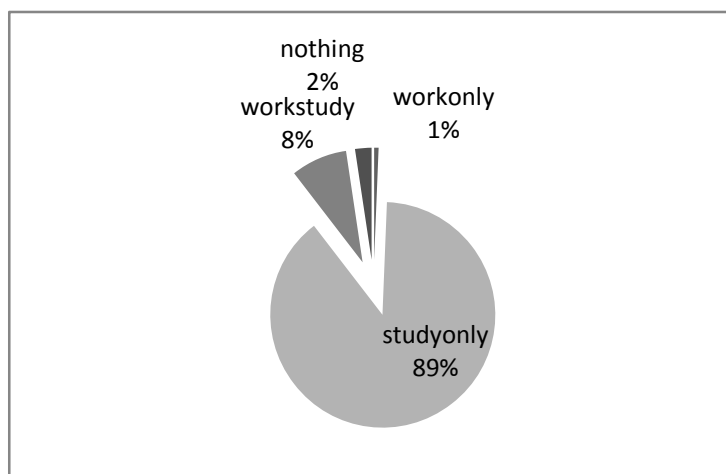


Figure 5.1: Distribution of children by activity category, 7-15 years
Source: Our calculations based on Brazilian PNAD 2008 data

Figure 5.1 illustrates that 8 percent of all 7-15 year-olds children work, and they attend school at the same time, while almost 1 percent is in employment. On the other hand, 89 percent of all children 7-15 years olds attend school, while 2 percent of 7-15 year-olds are doing nothing.

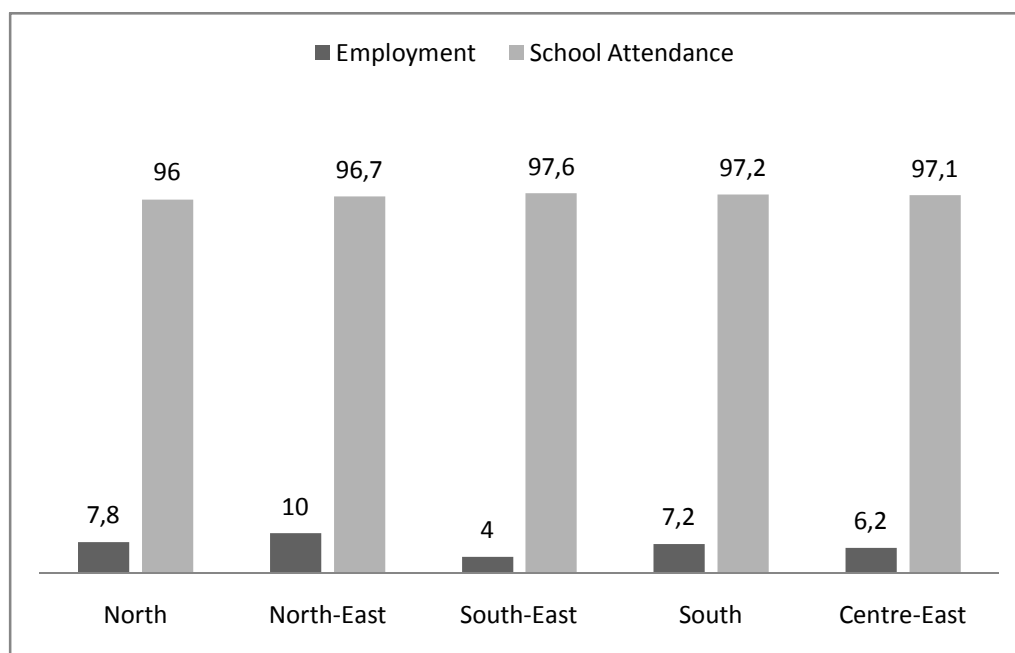


Figure 5.2: Children's involvement in employment and schooling, by region, 7-15 year-olds, percent
Source: Our calculations based on Brazilian PNAD 2008 data

According to the results, it appears that children's involvement in employment is overwhelmingly a rural phenomenon. There are studies which show that children living in cities and towns are considerably less likely than their rural counterparts to

engage in employment, and the results are in line with literature (see Edmonds and Pavcnik 2002; Kruger et al., 2007). Children’s school attendance differs little between rural and urban areas, but children in urban areas are much more likely to attend school (93 percent versus 80 percent).

Table 5.1: Children’s involvement in employment and school attendance, by region, 7-15 year-olds, percent

Region	Employment (%)	School Attendance (%)
North	7,8	96,02
North-East	10,01	96,77
South-East	4,01	97,66
South	7,25	97,29
East	6,29	97,13

Source: Our calculations based on Brazilian PNAD 2008 data

The results we obtained from the PNAD 2008 data illustrate that there is the need for the geographic targeting of child labor elimination efforts, are in line with UCW report (2010): “*The rate of child involvement in employment exceeds 10 percent in the states of Northeast (Piauí and Ceará) and exceeds seven percent in the states of North (Rondônia and Acre) and in the states of South (Rio Grande do Sul). Less than 5 percent of children are found in employment, by contrast, in some states of South-East (Rio de Janeiro and São Paulo)*”. There is less geographic variation in school attendance; at least some 96 percent of 7-15 year-olds attend school in all regions.

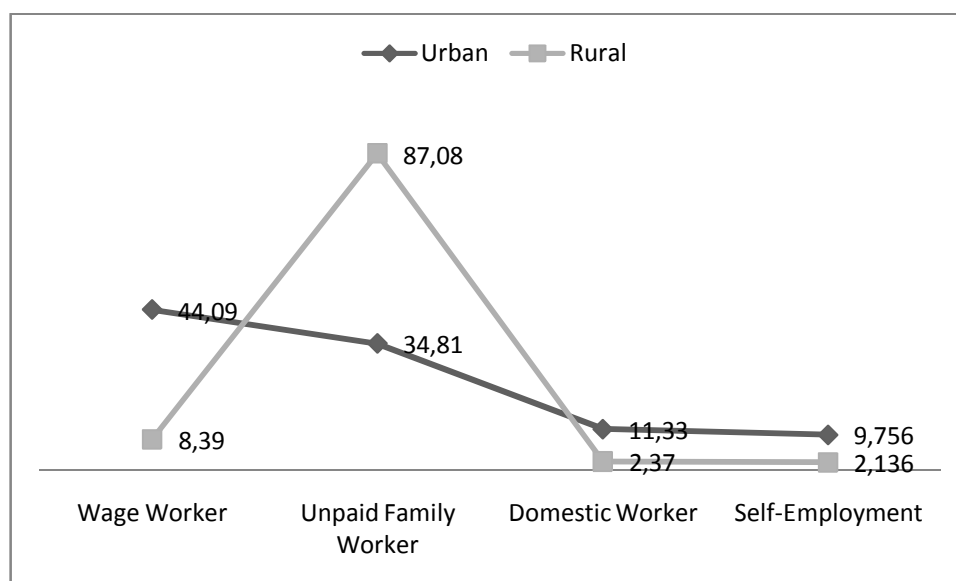


Figure 5.3: Child economic activity, by residence modality, 7-15 years age group, percent

Source: Our calculations based on Brazilian PNAD 2008 data

Figure 5.3 indicates that there is urban-rural difference for working children. While the rate of wage workers in urban is higher than the rate of wage workers in rural, the rate of unpaid family workers in rural is higher. Work opportunities in urban areas are much more than in which rural areas; therefore children's employment may increase. On the other hand, according to the results and general findings in literature, children in rural areas are more likely to engage in agricultural sectors within household.

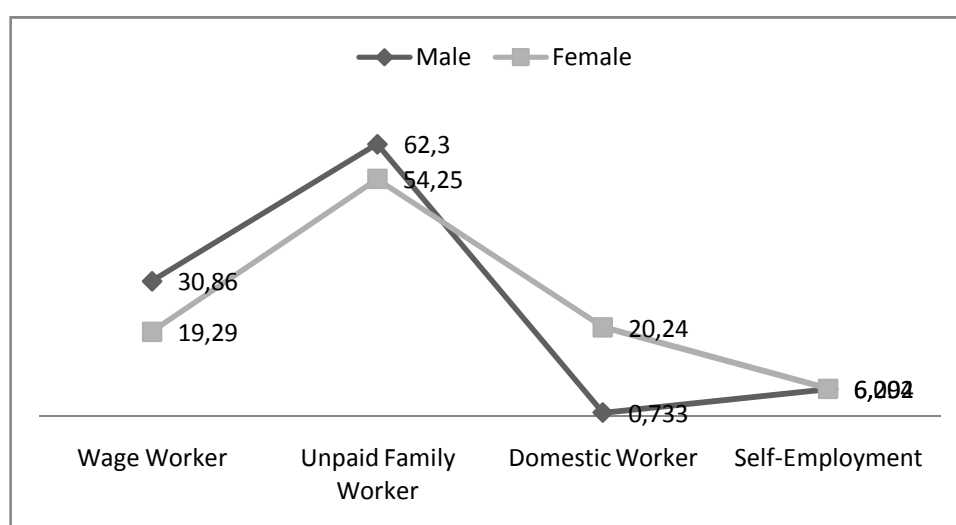


Figure 5.4: Child economic activity, by gender and modality, 7-15 years age group, percent

Source: Our calculations based on Brazilian PNAD 2008 data

In addition to the rural-urban difference, Figure 5.4 indicates that there also is gender-related difference in children's work. Male children are more likely to engage in wage work. On the other hand, female children are engaged in domestic chores, while male children are generally exposed to hazardous forms of child labor.

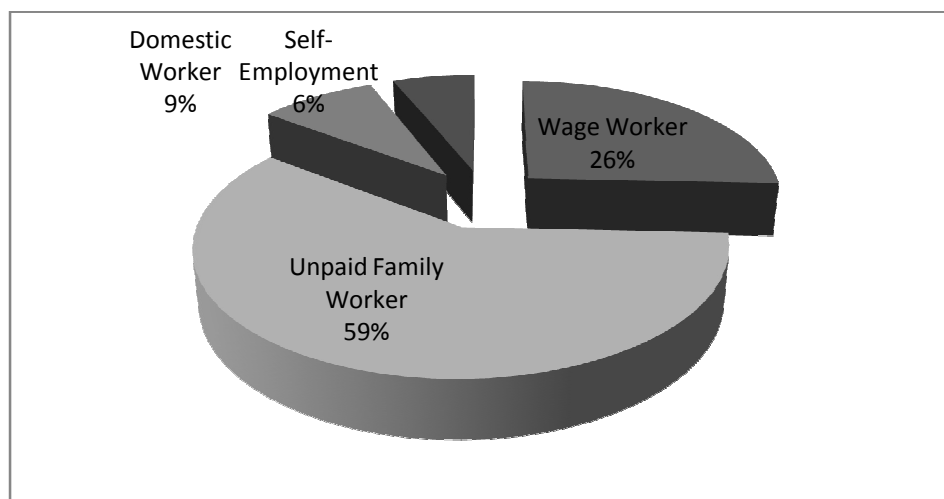


Figure 5.5: Distribution of children's economic activity, 7-15 years
Source: Our calculations based on Brazilian PNAD 2008 data

It is obviously seen that non wage labor performed within the household is the most relevant form of children's employment in Brazil. 59 percent of children work in a family establishment without wage. This finding confirms some studies in literature which examine the relationship households' poverty and children's work. These children contribute household income as unpaid family worker. Of the remaining working children, 26 percent work for a wage while 6 percent are self-employed and 9 percent work as domestic workers.

The work modality has disparities by rural or urban residence. In rural areas, 87 percent of children (almost all of children) work for their families as unpaid workers while 8 percent of children work as wage workers in formal establishments. This is important, because "*children in the formal sector are the only ones typically accessible to labor inspections (UCW, 2010).*"

Table 5.2: Child economic activity, by residence and gender, 7-15 years age group, percent

		Wage workers	Unpaid Family workers	Domestic workers	Self- employment
Sex	Boy	30,86	62,30	0,73	6,09
	Girl	19,29	54,25	20,24	6,2
Residence	Urban	44,09	34,81	11,33	9,75
	Rural	8,39	87,08	2,37	2,13

Source: Our calculations based on Brazilian PNAD 2008 data

However, in urban areas of Brazil, children are less likely to work for their families and more likely to be involved in wage employment compared to rural areas. According to the findings, 35 percent of children work as unpaid family workers while 45 percent of children engage in wage works.

Table 5.3: Average weekly working hours by school attendance, age group, sex, residence area, industry and modality

	7-11 years old		12-14 years old		7-15 years old	
	Employment	Schooling	Employment	Schooling	Employment	Schooling
Boy	25.37	14.47	33.79	18.33	35.6	19.65
Girl	27.13	11.94	34.24	18.56	32.53	18.58
Wage W.	38.62	16.65	37.43	23.10	39.46	25.77
Unpaid W.	17.23	13.54	27.46	16.37	28.17	16.25
Domestic W.	18.92	-	43.28	24.77	35.81	25.73
Self- Employment	40	10.30	28.05	15.34	30.46	16.57
North	30.91	14.54	27.1	17.8	30.47	18.65
North-East	18.59	13.73	31.31	18.15	32.23	18.27
South-East	40	12.49	34.71	18.92	35.92	20.68
South	10	13.90	38.22	17.31	38.96	19.18
Centre-East	13.03	-	44.17	22.13	42.89	23.27
Agriculture	14,5	13,52	30,00	16,63	31,85	16,51
Industry	34,71	13,68	39,16	19,75	37,53	21,18
Trade and	36,08	13,68	33,65	19,47	35,40	21,22

Service						
Domestic services	-	18,92	43,28	24,77	35,81	25,73
Other	42,61	11,71	37,09	18,21	39,26	22,38

Source: Our calculations based on Brazilian PNAD 2008 data

As seen Table 5.3 based on statistics about children's working hours, children spend almost their time in work. Children's employment in Brazil is dramatically intensive. Working male children aged 7-15 years spend 35 hours of each week while female children work 32 hours. Work intensity increases with age as clearly seen: from 14 hours for the 7-11 years age group to 18 hours for the 12-15 years age group. As well as gender differences in working hours, there are disparities in region and residence. Urban children aged 7-15 tend to work longer hours than children in rural areas (42 hours per week versus 32 hours per week). These are very dramatic findings.

In addition to remarkable findings about the distribution of working hours for children in employment, further figure presents that working children are clustered around 20 hours per week while working adults are clustered in the range around 40 hours per week.

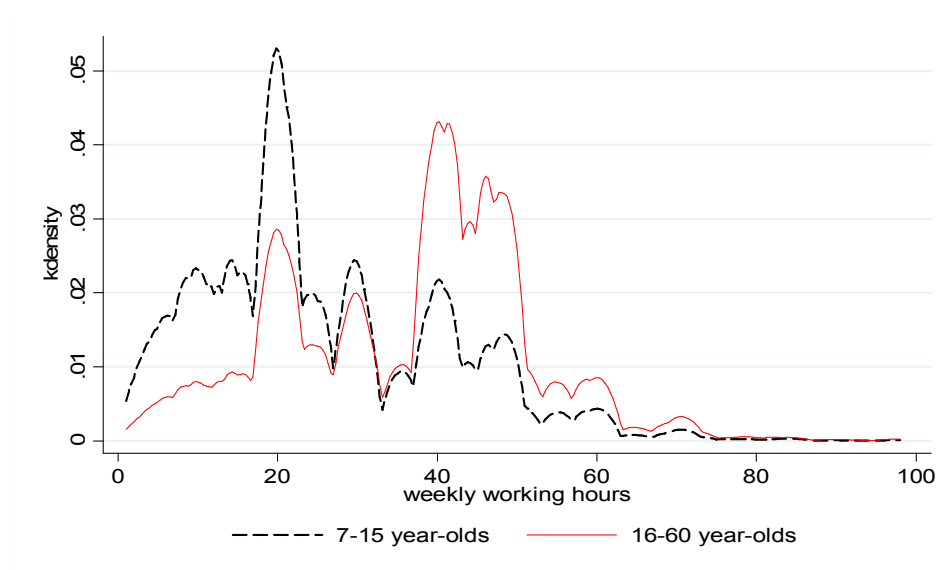


Figure 5.6: Distribution of children in economic activity by working hours, 7-15 and 16-60 years age group

Source: Our calculations based on Brazilian PNAD 2008 data and based on UCW 2010 report

On the other hand, there is significant estimation illustrated by figure, is the relatively large fraction of working children works 40 or more hours per week like adults. It is deduce from these striking findings, these are among the worst of working children. Their earnings contribute family budget without schooling, leisure and rest. Moreover, *“their prolonged working hours dramatically denote to be working under risks related to their health (UCW, 2010).”*

As known, children’s involvement in employment preclude to schooling. In order to reduce child labor is closely related to the increases of educational opportunities. Most of time, there is need of the subsidies for schooling.

Moving from the previous sub-section, the employment precludes both Brazilian children’s school attendance and their performances in school. These also reduce school quality in the country. Moreover, in Brazil, the employment of children obviously preclude to achieving Education for All which aims universal primary education in every country by the year 2000.

PNAD provides to examine the educational impact of children’s employment.

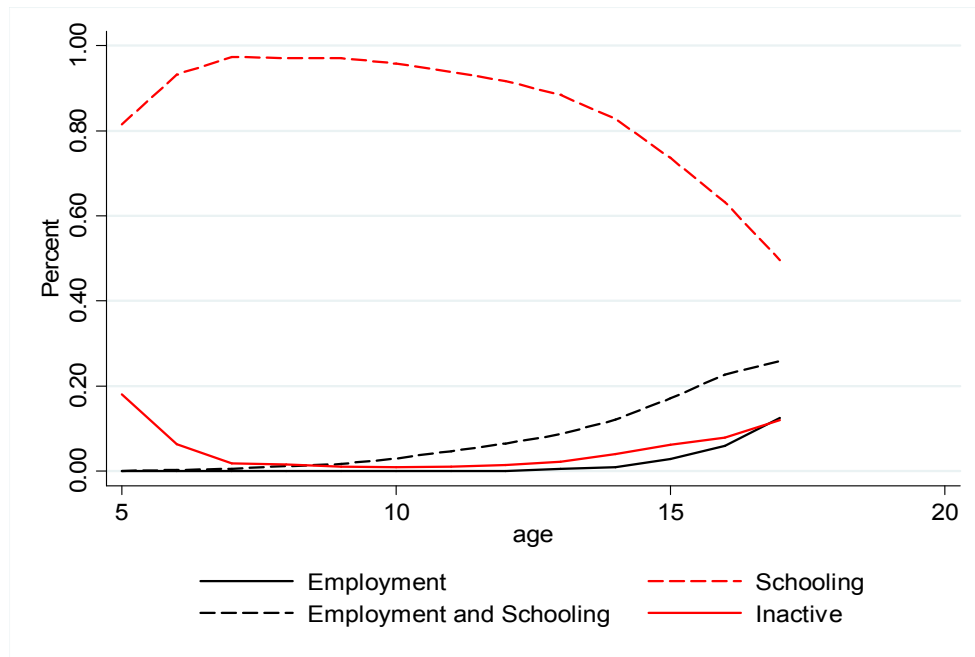


Figure 5.7: Children’s activity category, by age
Source: Our calculations based on Brazilian PNAD 2008 data

Although almost 80 percent of children (5-12 years old) engage in schooling, this rate dramatically reduces with age. When schooling diminishes, children are more likely to engage in work, or they combine both work and school. The percent of children only in employment increases with age as well as the percent of children combining work-school and “inactive” children. In sum, it appears that children within poor households are more likely to engage in child labor as they grow older. *“The intuition behind this finding is that the value of the child’s labor increases with age, thus leading to an increased likelihood of working over time (UCW, 2010).”*

5.1.3 Trends of Children’s Work in Brazil

In this sub-section, we use data from the PNAD for the period 1992 to 2008 in order to how child labor changes over time. We also examine child labor trends considering residence, sex and age. Because, there have been still disparities compared to cities and rural, girls and boys.

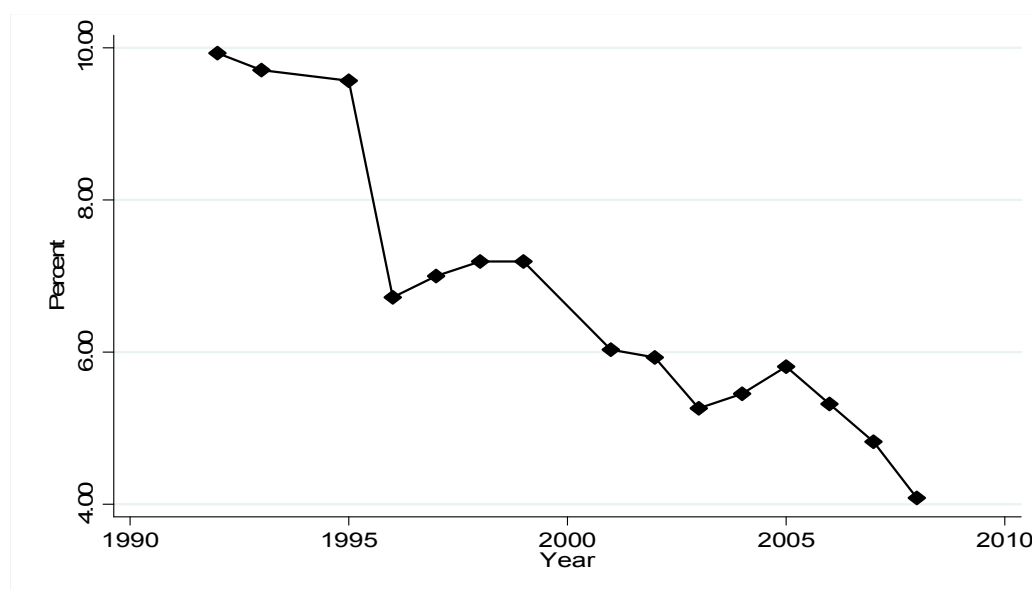


Figure 5.8: Children’s employment, from 1992 to 2008
Source: Our calculations based on Brazilian PNAD 2008 data

Firstly, Figure 5.8 based on children’s (aged 7-15 years) employment illustrates that child labor diminishes from 1992 to 2008. During the same period and for the same age group, school attendance rises to 97 percent. Figure indicates that there are the decline in children’s employment and the increase in their schooling. It is

deduced that the Conditional Cash Transfers have been successful for reducing child labor. Because, the cash transfer programs play incentive role for driving children to school. These children who previously only worked and children, who previously did not work and did not go to school, participate to school because of Conditional Cash Transfers.

Detailed figure indicates that the school attendance increases with year for both female and male children, however employment of children declines significantly, from 1992 to 2008.

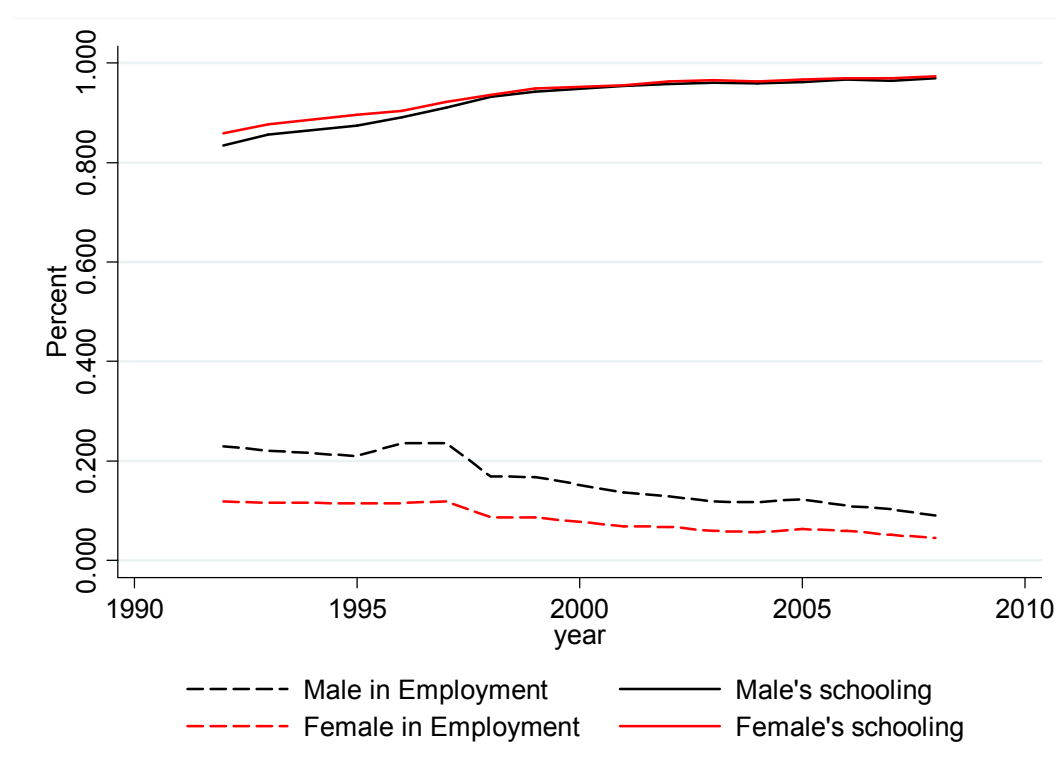


Figure 5.9: Children's employment and schooling, 7-15 years old
Source: Our calculations based on Brazilian PNAD 2008 data

Although, for both rural and urban areas of Brazil, the school attendance of children is high level (almost 80 percent) since 1992, however school attendance in urban areas is always more than rural areas. Moreover, school attendance increases with year because of the eliminating programs, school attendance is above 90 percent for urban areas. Children in rural areas are more likely to work, because they engage in agriculture or work as unpaid family worker.

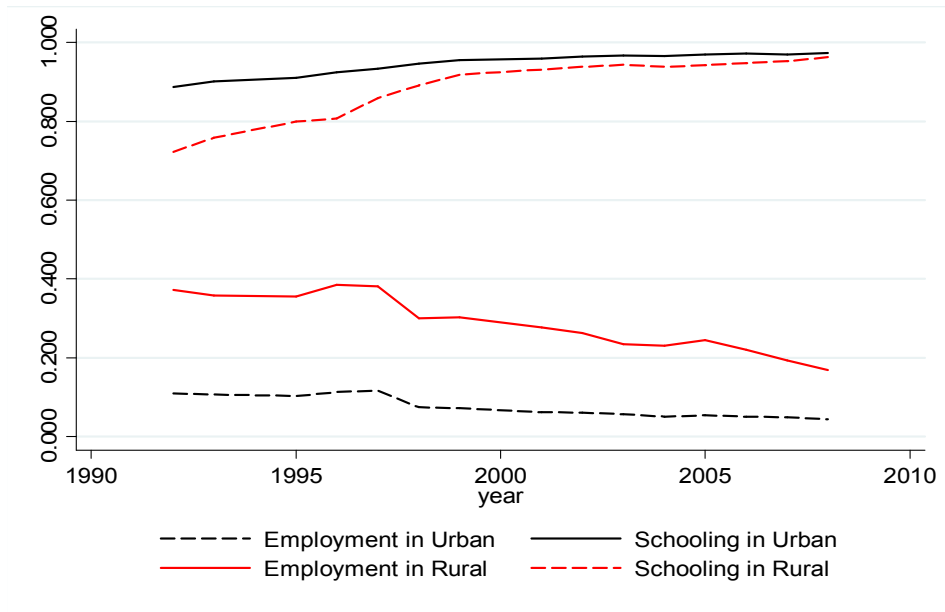


Figure 5.10: Children's employment and schooling, by residence, 7-15 years old
Source: Our calculations based on Brazilian PNAD 2008 data

Figure 5.11 illustrates how the age distribution of children involved in employment has changed across the period considered. It is clearly seen that the employment rate increase with age at period. On the other hand, Figure 5.11 illustrates that the rate of children in employment has reduced from 1992 to 2008. The achievement of child work eliminating programs and policies in Brazil from 1992 to 2008 is clearly seen.

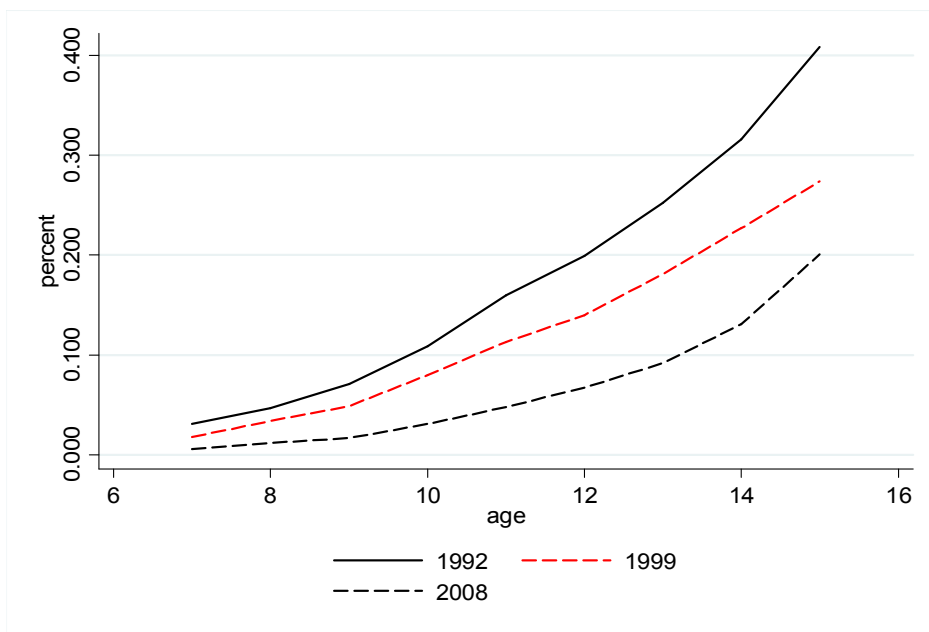


Figure 5.11: Children's employment, by age, by survey year
Source: Our calculations based on Brazilian PNAD 2008 data

A similar pattern can be observed for school attendance rates. Figure 5.12 illustrates that the level of school attendance has increased over the years for two genders.

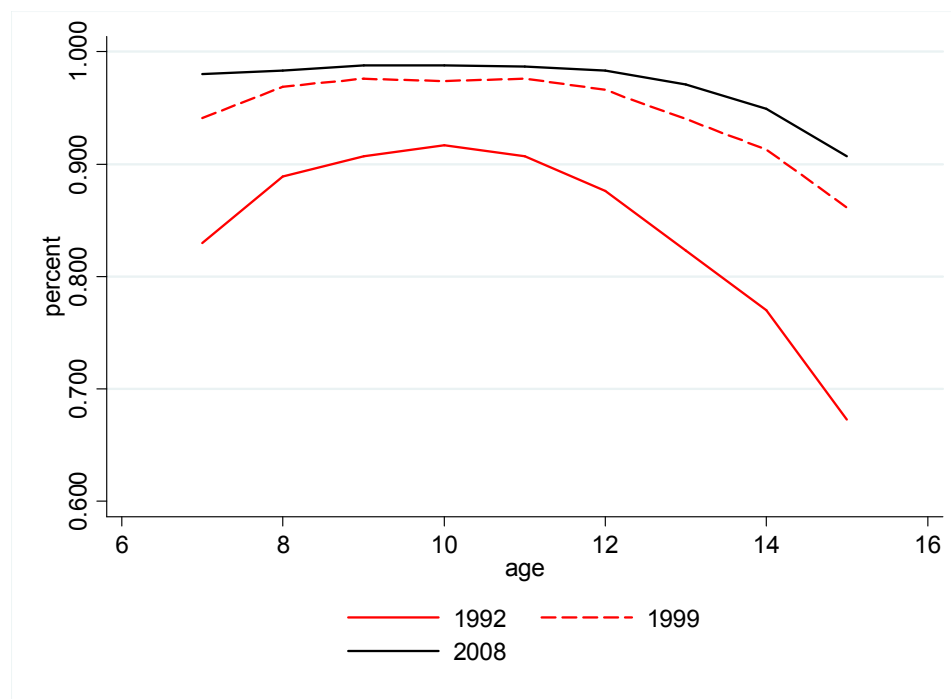


Figure 5.12: Children's school attendance, by age, by survey year
Source: Our calculations based on Brazilian PNAD 2008 data

Table 5.4 presents detailed information about the changes over the 15-years period. Considering 1992, 1999 and 2008 as reference years, the results show that the reduction in employment is obviously large for children only in employment. For urban areas, the share of children in employment without also attending school decreases over the 1992-2008 period, from 3.45 percent to only 0.45 percent. In rural, children only in employment reduce, from 13.87 percent to only 0.95 percent. Despite these declines, currently child labor affects almost exclusively children who attend school. There is a large movement of children from "inactivity" to school over the 16-year period, from 13.85 percent to 2.74 percent.

Table 5.4: Children's activity category, by gender and, by survey year

	1992	1999	2008	1992	1999	2008
	<i>Male</i>			<i>Urban</i>		
Only Employment	7,8	2,18	0,79	3,4	1,03	0,45
Only Schooling	68,36	79,71	88,66	81,12	89,27	93,3
Employment and Schooling	15,1	14,59	8,29	7,59	6,22	4,02
Neither Activity	8,66	14,59	2,23	7,85	3,46	2,21
	<i>Female</i>			<i>Rural</i>		
Only Employment	4,06	1,07	0,28	13,87	3,55	0,95
Only Schooling	78,18	87,35	93,01	48,79	65,06	80,36
Employment and Schooling	7,75	7,59	4,28	23,47	26,76	15,94
Neither Activity	9,98	3,97	2,4	13,85	4,61	2,74

Source: Our calculations based on Brazilian PNAD 2008 data

As obviously seen from the table, gender, rural-urban and regional disparities in school attendance were reduced over this period. The increase in school attendance was greater for girls than boys. Similarly, over the last 16 years, rural-urban differences in school attendance have been substantially reduced. However, in rural areas of Brazil, children's involvement in employment remains still very high.

5.1.4 Why Children's Work Has Declined in Brazil?

The previous section has given detailed statistical information the recent trends in children's employment and schooling in Brazil. According to the results, children's work has fallen and schooling has risen considerably in Brazil from 1992 to 2008. During the period covered by this study, several strategic interventions in the area of child work have been implemented and policies conducted at both the central and local level. This success is not belonged to policies and program, the country social and economic characteristics have also obviously changed: living standards have improved, poverty has fallen, access to basic services has expanded, while new generations of parents have become increasingly more educated (UCW, 2010).

In this section, we focus on how children's work had declined, what are the inventions and determinations driving children to work by econometric evidence. The evolution of children's employment and school attendance, together with a

number of relevant individual, household and community characteristics, is tabulated for 1992 and 2008 for children aged 7-15 years and the household to which they belong. The data is presented separately for the whole sample.

Table 5.5: Children's Time Use and Characteristics: Brazil, 1992 and 2008, children aged 7-14 years old

	1992	2008
	Percent	Percent
School Attendance	85.31	97.03
Child's Employment	16.33	6.83
Work Exclusively	5.55	0.55
Study Exclusively	74.56	92.75
Work and School	10.76	6.28
Inactive	9.13	2.42
Percent in Agriculture	53.33	45.32
Percent in Industry	9.15	9.14
Percent in Trade	16.08	20.8
Percent in Service	7.92	13.7
Percent in Domestic Service	10.28	7.18
Percent in Construction	2.85	3.7
Percent in Mining, Water	0.4	0.16
Sex		
Female	49.55	48.78
Male	50.45	51.78
Race		
Indigenous	0.09	0.27
Black	46.93	39.81
White	5.1	5.94
Yellow	0.22	0.35
Mixed	47.65	53.53
Household head education		
No education	26.61	16.08
Primary	50.36	42.17
Secondary	9	15.37

	Higher	14.04	26.39
Adult Unemployment Rate		0.046	0.052
Pipe water		72.13	88.64
Observations		66,270	64,716

Source: Our calculations based on Brazilian PNAD 2008 data

School attendance increases from 85 percent to 97 percent as illustrated in previous section. There is striking finding for this thesis: Children's employment declines obviously (from 16 percent to 8 percent). On the other hand, the probability of combining employment with school is relatively high but declining (going from 10 percent in 1992 to 6 percent in 2008). The proportion of children in employment only is relatively low (5.55 percent points in 1992) and also declining (0.55 percent in 2008).

Considering sectors children has been working, in all sectors (agriculture, industry, trade, service, domestic service, construction and mining-water) children's employment declines excluding the sector of service and construction. Children's employment in service and construction sectors increase, in turn, from 7 to 13 and from 2 to 3).

The results are in line with Souza (2006) who illustrates cash transfer programs have a significant impact on increasing school attendance and observes the same for boys and girls. The ethnic composition of households with children changes slightly with a reduction of the fraction of whites and an increase in that of mixed race. The proportion of children with access to basic services, such as access to piped water, increases from 72 percent to 88 percent. The level of education of the household head has been increasing over the period. The proportion of household head with no education decreases from 28 percent to 16 percent, while household head with secondary and higher education rises (respectively from 9 percent to 15 percent and from 14 percent to 26 percent).

Our results are in line with Edmond and Pavcnik (2002)'s study on Vietnam. They indicate that an infrastructure improvement is defined as improvements in

roads, irrigation, health facilities, electricity, schools, induce to increases in children's schooling. These physical infrastructures improve the productivity of private investment or adult human capital endowments. In Brazil, during this period children have been better opportunities (i.e. access to water) that induce to increases in their school enrolments.

On the other hand, household head education is closely related to household income. Again, Edmonds and Pavcnik (2002) express that when household income from adult wages surpasses some threshold, families are more likely to withdraw the children from the labor market. Confirming their theory, they observe large increases in (especially secondary) school enrolments, and they find a strong association between increases in household income and school attendance in Vietnam. These results may be based on Basu and Van (1999) who say that increases in household income and increased availability of schooling opportunities in low-income countries may help reduce child labor.

5.2 Facts of Children's Employment and Schooling in Turkey

In 1994, 1999 and 2006, researches based on household survey including questions on children's work, have aimed to visualize the framework of child labor in Turkey. According to the results, the rate of working children 6-17 years old is 15.2 percent in 1994. This rate declines to 10.3 percent in 1999. Moreover, the decline has continued in 2006 (5.9 percent). Findings indicate that there are absolute and relative declines in children's work during the years. Also, the reduction of children in employment induces to the reduction of unpaid family workers.

Table 5.6: Children's employment and schooling, by survey year, 6-17 years old

	1994 (%)	1999 (%)	2006 (%)
Children in Employment	15.2	10.3	5.9
School Attendance	75.4	79.1	84.7

Source: Inal (2010)

Table 5.7: Children's employment, by residence and survey year, 6-17 years old

	1994 (%)	1999 (%)	2006 (%)
--	----------	----------	----------

Urban Employment	7.8	5.3	4.6
Rural Employment	23.3	16.9	7.9

Source: Inal (2010)

Since 1992, in order to save children from hazardous forms of child labor, working conditions have been improved and school attendance have been increased by combating programs and policies have implemented in Turkey. It is deduced that these implementations have been successful. According to the 2006 Child Labor Survey results, school attendance of female and male children has increased significantly for both urban and rural. The results are presented in Table 5.8:

Table 5.8: Children's employment, by residence, gender and survey year, 6-17 years old

	1994 (%)	1999 (%)	2006 (%)
Female	70.3	74.9	81.9
Male	80.2	83.4	87.5
Urban	81.4	82.5	87.2
Rural	68.6	74.6	79.9

Source: Inal (2010)

There is large literature focusing on the association between child labor and household income. Most of time, children work, because their household need children's income for household budget in order to live or obtain better living standards. Poverty is the most important reason for child labor supply (Inal, Child Labor in Turkey, 2010). According to the 1999 Household Survey results including the child labor statistics module, most of children work, because they have to work. 38.4 percent of children work in order to contribute family budget, 19.8 percent of children work in order to aid family's economic activities. While the results indicate that 15.9 percent of children work because of parental decisions, some children work to obtain an occupation (10.4 percent).

In Turkey, one of the relevant expressions on children's work is to see acceptable the regulation of "Vocational Education" and "Apprenticeship" according to child labor (Erder and Lordoglu, 1994). However, children take vocational

education or work as apprenticeship in work place with sometimes under worst conditions (Yazman, 1999).

More striking findings including the association between child work and income percentile are presented in Table 5.9. These results confirm literature which indicates children's work decline with the improvements in household income (Inal, Child Labor in Turkey, 2010). Because, children engage in economic activities for assist family income. These are result of family circumstances and pressures.

Table 5.9: Trends of Child Labor in Turkey

	1994		1999		2006		Decline
	Number of Children	Percent	Number of Children	Percent	Number of Children	Percent	1994/2006
Wage Workers	648	29%	617	38%	513	53%	-21%
Self Employment	52	2%	28	2%	26	3%	-50%
Unpaid Family Workers	1570	69%	985	60%	420	44%	-73%
Total	2270		1630				-58%

Source: Inal (2010)

Table 5.10: Labor Force Participation Rate in Turkey

Income Percentiles		Labor Force Participation Rate
1.	%10	17,14
2.	%10	12.50
3.	%10	8.58
4.	%10	11.02
5.	%10	8.28
6.	%10	11.05
7.	%10	7.85
8.	%10	5.26
9.	%10	6.09
10.	%10	2.21
Total		10.16

Source: Dikbayir et al., 2001

Moving from 2006 Household Survey including renewed Child Labor Module, there are 16.264.000 millions children (6-17 years old) in Turkey (urban and rural).

958.000 of these children are engaged in an economic activity. In particular, most of children are in domestic works (43.1 percent) while 51 percent of children are economically inactive.

5.2.1 The Causes of Child Labor's Continuity in Turkey: Poverty, Apprenticeship and Migration

The most relevant idea on determinants of child labor is “poverty” for developing countries, including Turkey. However, poverty is economically an ambiguous term, because there is “relative poverty” literature. Also, Erder and Lordoglu (1993) indicate the poverty's heterogeneity for Turkey. In this framework, despite of its ambiguity, poverty is most visible factor in order to eliminate child labor and to pull out of children labor markets. However, other causes of child labor also should be considered accurately (Erder, 2005).

As illustrated in this thesis, on the one hand, children working as unpaid family worker are more likely to engage in wage work in labor market with age for both Brazil and Turkey. Because, these children aid to family to obtain better living standards and alleviate poverty in their adulthood. But on the other hand, not working may be seen extraordinary because of some socio-cultural norms and traditional attitudes. Especially male children are forced to work in early ages. Therefore, male children are more likely to be exposed to hazardous forms of child labor. These bad work conditions may continue in their adulthood. For example, most of children have hearing loss because of work conditions and work places (Inal, 2010).

In addition to the impact of poverty on the continuity of child labor, as stated in general view, there is “apprenticeship” phenomenon which is approved by many families in Turkey.

Apprenticeship is the training of children and youth in the secondary school age group. Children in this age group generally have been completed primary education. However, some of them do not continue to a higher level of education. Thus, they have remained outside of formal education. These children (generally 14-

19 years old) can receive apprenticeship training. Expanding compulsory education in Turkey has induced to children to remain at school until 15 years old. However, some children may engage in both apprenticeship training and school. There is a relevant idea in Turkey for long time ago: apprenticeship may be seen the positive side of child labor. At present, the most of household head have obtained their occupation by being apprentice in their childhood. Also, apprenticeship is very relevant in rural and families migrating from rural to urban. Children coming from these families continue receiving apprenticeship training in cities.

Some arrangements have been made by the Law of Apprenticeship and Vocational Training. The result of these arrangements, “Vocational Training System” includes three basic field of application: as formal vocational training, apprenticeship training and vocational courses. Firstly, children finish formal vocational training and then they may enter master's examination after a year of work experience. On the other hand, apprenticeship training has a duration of is 3 to 4 years. After these completed time period, they may enter the “journeyman examination”. After receiving a journeyman certificate, candidates may enter the master's examination after three years of work experience provided that they continue mastership training.

Candidates who receive a mastership certificate can open an independent workplace. They cannot work as a master with signed an apprenticeship contract. Thus, with this contract they can benefit from their rights as students, and their insurance premiums during their training are paid by the Ministry.

Migration is the factor for continuity of child labor. Children may be forced to migrate alone. These children are the most vulnerable group. There are some reasons for parents to send their children alone to urban areas. Children may sometimes migrate voluntarily or sometimes by force. However, they may be exposed to hazardous forms of child labor or they may face child abuse. Children’s migration can be considered as a coping strategy and a way to gain additional income for the family. This migration might reduce household expenses and increase household income. Moreover, children might migrate independently because of their need to earn more money for their upkeep; most of children want to obtain autonomy.

On the one hand, some children migrate with their families. These children are relatively luckier. However, there may be extremely difficulties for these migrants. Because of environmental changes, disasters, armed conflicts, unemployment, households are forced to migrate. These migrants are defined “Economic Migrants” (The Hague Report, 2010). Some economic migrants may achieve an improvement in their living standards compared to their initial situation. However, some households might face difficulties in their new environment during the transition and integration process. If they have the lack of legal status, they suffer. Moreover, not all migrants are “successful” and “lucky”, they might end up in difficult and vulnerable situations.

5.2.2 Why Children’s Work Has Declined In Turkey?

Child Labor Survey has been made in 2006, and for this thesis, we use the data coming from Child Labor Survey’s in order to picture the framework of working children in Turkey. Stated as a general point, findings are very striking. Despite of the programs aimed to eliminate child labor, 3.91 percent of children are still engaged in employment. As known and no doubt, agriculture is very important in Turkey, and according to results, children are employed in agriculture and agricultural sectors (53 percent). 8 percent of children in rural areas work while this rate decreases to 5 percent for urban areas.

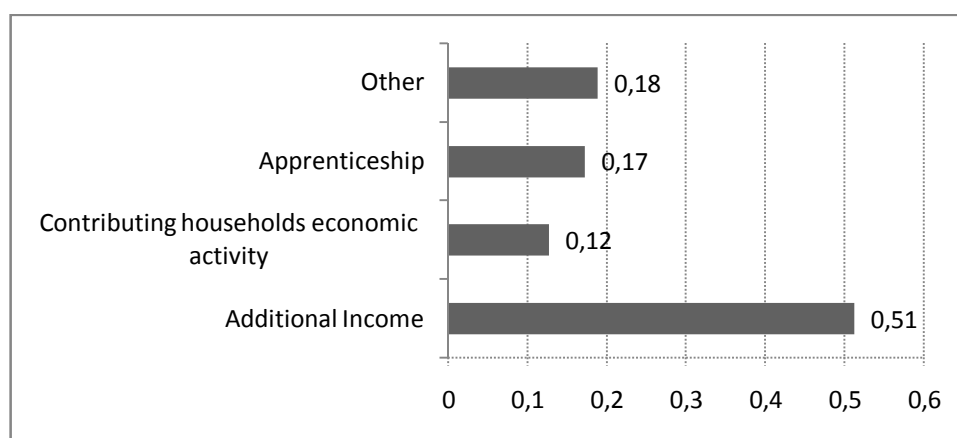


Figure 5.13: Causes of children’s work, percent

Source: Our calculations based on CLS 2006

Detailed figure illustrates that children are performed which types of work. Children in agriculture work as wage worker (44 percent), self employment (2

percent) and unpaid family worker (54 percent). On the other hand, apprenticeship training is another dimension of child labor and appears at significant level in Turkey (%17). Most of children, as known, work to contribute to household budget. The figures indicate that working children make a sizeable contribution to household income (%51). From these results, it is clearly seen that there is closely relationship between household poverty and children's work. %12 of children is engaged in household economic activity (including domestic and unpaid family workers). The results are in line with OECD report which indicates the majority of working children are classified as unpaid family workers and percentage of children engaged in unpaid activity decreases with age. The results confirm OECD report assumption which emphasize that the decline may be consistent with the fact that older children are more productive and perhaps less vulnerable.

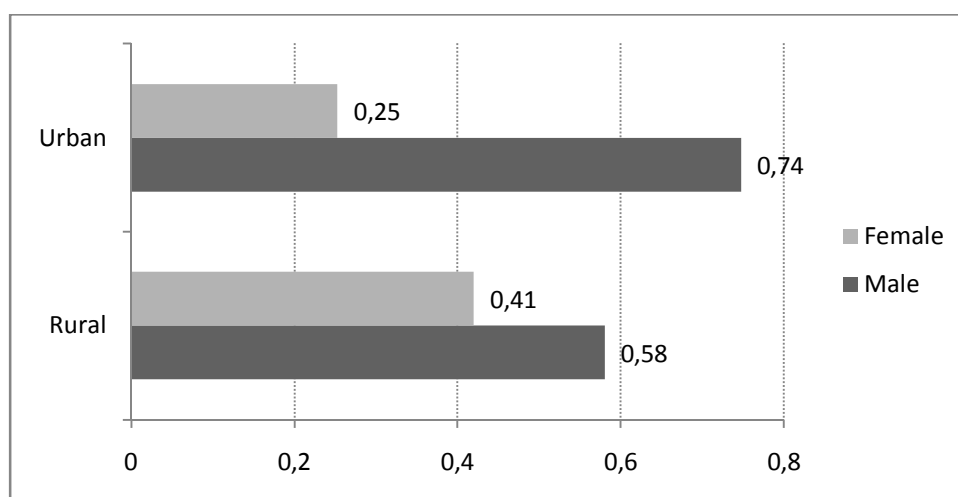


Figure 5.14: Children in employment, by gender and residence, percent
Source: Our calculations based on CLS 2006

There is a further point to be observed. The results indicate gender and residence (rural and urban) differences in employment of children. In rural, the proportion of male children in employment is more than female, for both urban and rural: for rural areas, while 41 percent of female children are engaged in employment, 58 percent of male children are engaged in employment. Employment rate increases to 75 percent for male in urban areas.

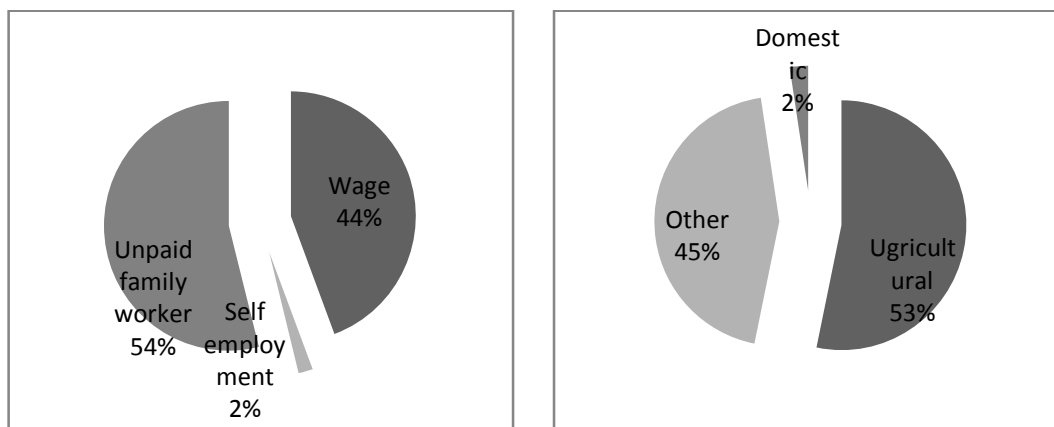


Figure 5.15: Children's economic activity in Turkey
 Source: Our calculations based on CLS 2006

On the other hand, children are engaged in domestic works. Especially, the female children spend long hours on domestic activities. Thus, the other members of family may work out of household with more productivity. However, for these female children, to be engaged in domestic chores may be barrier to be successful in school scores.

In the next section, we illustrate how children's employment has fallen in Brazil and Turkey with econometric evidences.

6. ECONOMETRIC EVIDENCES

6.1 Econometric Evidence from Brazil

The previous section has illustrated the trends in children's employment and schooling in Brazil from 1992 to 2008. Children's employment diminishes from 16.33 percent to 6.83 percent for 7-25 age groups.

As known, most children (excluding those that live on their own) have little control over their time allocations. Moreover, the allocation of child's time appears as a joint decision and is closely related to the household decisions. According to the literature, whether the child should work, attend school; both or neither are chosen by families. This section also investigates why parents choose to engage their children in work rather than sending them to school or leaving them idle at home.

In particular, the sub-section focuses on children's work by economic model and econometric evidence. Thus, we can clearly see how children's work has fallen and schooling has risen in Brazil with econometric evidence.

Firstly, Basu and Van (1997) indicates that children's employment is strongly related to "bad preferences" of families. The importance of household preferences on child's time allocation may be associated with the economic model. This model is derived from the theory of household demand for schooling, in which education is viewed as an investment in human capital- see Blunch and Verner (2001). In sum, the outcome of this decision - schooling, work, both or neither - is determined by various individual, household and community characteristics. We follow Blunch and Verner (2001) for economic model:

$$W_i = W(I_i, H_i, C_i) \quad (\text{Equation 1.1})$$

where W is the decision variable (work of child i), I is a vector of individual characteristics (e.g. age, gender of children), H is a vector of household characteristics (e.g. the socioeconomic status of the household, household head's education), C is a vector of community variables (whether the household belongs to a rural or an urban community, access to water, state Gini index).

On the other hand, in determining children's schooling attainment and work decisions, demographic and socio-economic characteristics are also important. Considering these specialties, in countries with large indigenous populations (especially Brazil), language and cultural differences are also significant and relevant factors for children's schooling. All of these factors influence the decision of participation to school, the child's performance while in school, and the schooling attainment of the population. As known, most of indigenous children may not attend to school because language differences, even if they attend their scores in school may be very low.

In order to estimate the incidence of child labor and school attendance in Brazil and to examine how the likelihood of children's employment changes, we selected a sample of all children aged 7 to 15 years old with valid information on child labor and school attendance. PNAD survey provides solid information about children, household and community's characteristics as indicated in previous sections.

We run "Logistic Regression Model" using STATA. We examine the incidence of children's time allocation on four dependent variables: children attending schooling only, working only, working and schooling, and children that do not work in the labor market and do not attend school. Table 5.11 and Table 5.12 show the logit regression results for selected variables.

We also combine the variable of children in only employment, the variable of children in both employment and schooling as "Workers" dependent variable. Again, we use logistic regression model in order to analyze the incidence of children's work.

Our independent variables follow the empirical specification laid out by Equation 1.1. For this reason, we use age, gender, race variables as children's characteristics; household income, access to water canalization, number of siblings as household characteristics; primary, secondary and higher education level as household head characteristics (excluding no education as control variable); regions, residence (rural and urban), adult unemployment rate and state Gini index as community characteristics; and we create dummies of each year (excluding 1992 as control variable). We combine black, white, yellow races, and define those as "other races". Also, we define male and indigenous children as control variable for logit models.

According to the logistic regression results, having done the matching as described in the previous section, as children grow older and their potential earnings increase, they are pulled out of school and they participate to the labor market. UCW (2010) underlines that the available information is insufficient to provide a precise idea of the relative importance of the two probable reasons for this: the rising opportunity cost of schooling (i.e. the wage rate) as a child grows older, or the lack of access to schooling at the post-primary level.

The main results of our estimation are presented. The coefficients inform the effects of the explanatory variables on the likelihood of working. All explanatory variables are significant. A positive coefficient means that increases in the independent variable induce to increases in dependent variable or we may deduce those children are more-less likely to work.

There is provided solid information about impact of age on children's work and school attendance. The results confirm previous studies that indicate the likelihood of children's work increase with age. However, there is another striking finding: the likelihood of school attendance also increases with age.

The results are in line with Edmonds (2002) who observes that child labor participation rates increases with age. Our results indicate that male children are more likely to participation labor force. The results are also in line with Dayioglu

(2006). The findings about the impact of age and gender can emerge: Older male children are more likely to work.

The determinations of children's time allocation are absolutely complex. The socioeconomic status of the household head is an important determinant of child labor. Better education and health for poor have important positive externalities for the poverty alleviation. Better education for women is often associated with the better education, nutrition and health of children. On the other hand, access to drinking water is found to be key factor in determining the likelihood of children attending school. A better access to water appears to induce to the increases in the probability of children's schooling and decreases in the probability of children's involvement in employment. The rate of full-time school attendance is much lower, among children from households without access to water. There is a strong correlation between water access and children's time allocation. Cigno and Rosati (2005) find access to water in rural areas appears to raise school attendance differencing by country (El Salvador, Guatemala, Ghana, Morocco, Yemen).

Moreover, according to the results, indigenous children are more likely to work than other children (white, black, yellow and mixed races). Living standards related to children's living location are closely correlated with their work decisions and schooling. Indigenous children in rural areas are more likely to work. Holding other factors constant, children in urban areas more likely to be attending school full time and less likely to be employed full-time, compared to their counterparts living in the rural.

Siblings and fertility are important motivation for children's work. Also, the number of siblings acts as an important proxy for wealth, as it represents the need for family labor and a lack of resources. It also affects schooling performance as indicated. Considering literature, some studies show that the number of siblings not in school proved to be an important control variable in one specification of the empirical model. However, more research is needed on the interactions between siblings and their activities and their age structure. In other words, one must find ways of taking into account the "life cycle effects" of one's siblings on their schooling attainment and performance and participation in the work force (See

Patrinos and Psacharopoulos, 1997). In addition, the effects of household size (is indirectly related to the number of siblings), in some studies, household size is found not associated with the decision to work. But of particular importance is the fact that working children have three times the chance to have failed a grade in school. Thus child labor is negatively associated with school performance (Psacharopoulos, 1997).

According to our findings, the number of siblings in the household is strongly correlated with children's work and schooling decisions. The results are in line literature. The likelihood of children's employment increases, the likelihood of schooling decreases with more the number of siblings. Cigno and Rosati (2005) find the male wage rate (or household income) affects fertility positively, and the female wage rate affects it negatively, as expected.

Fertility is important phenomenon. There is its effect on child benefit rate. The effect of the interest rate is positive in some countries. Cigno and Rosati (2005) indicate that the fertility effect of the child benefit rate (equivalent to that of a reduction in the fixed cost of a child) is estimated to be positive in the post-war time series of West Germany, Italy, Japan, the UK, and the USA. They also add that these findings relate to developed economies, but are consistent with earlier findings on developing economies.

As indicated, household poverty is closely related to child labor. And, studies show that working children contribute significantly to total household income. Stated as a general point, children do not remunerate when they engage in employment. However, they continue to work with vary reasons.

Kruger et al. (2007) also indicates that higher parental wages and household wealth are associated with lower child labor and higher school attendance. But on the other hand, the earnings of child laborers can be very low. Those children helping their parents earn nothing at all, while many others only receive payment in kind. In Brazil, child laborers earn one-third the minimum wage, although they contribute one-third of family income (ILO, 1992).

Furthermore, work status is also important determinant of educational attainment. A full-time working child is unlikely to be enrolled in school. Psacharopoulos (1997) indicates that household income may well be endogenous in the work status and educational attainment specifications. Cigno and Rosati (2005) indicate that in most households, the father's wage rate affects essentially full household income, while the mother's wage rate affects also the costs.

Selected "Adult Unemployment Rate" variable and its effects on children's work and schooling should be interpreted attentively regarding Kruger et al. (2007)'s paper which indicates there are income and cross-substitution effects pulling in opposite directions (Cigno and Rosati, 2005). According to the results, when unemployment rate increases, the likelihood of children's schooling increases and the likelihood of children's work reduce. The results are in line with Kruger et al (2007). Firstly, the increases adult unemployment rate may seem a sign of deterioration of local market conditions. It is deduced that there is declines in work opportunities. Therefore, children engage in schooling, and thus children's work reduces.

Secondly, Kruger et al (2007) mention income changes that are associated with changes in households' full income should represent either pure income effects or situations where income effects tend to be relatively more important and therefore should increase the demand for schooling and reduce child labor. This is income effect's result. On the other hand, they add that short term fluctuations in wages, income, or economic growth should be mostly associated with increases in the opportunity cost of children's time, given an expected present value of full income. Therefore, these changes should isolate the substitution effect and bring together increased child labor and reduced schooling. This is substitution effect's result. Moving from the results obtained from PNAD, substitution effect appears to counterbalance the income effect, moreover, substitution effect surpasses the income effect.

Table 5.11: Logistic regression results obtained from PNAD using working children as dependent variable

Workers (5-17 years old)					
	Explanatory Variables	Logit	Odds	Marginal effects	Elasticity
Children's characteristics	Age	.4309271	1.538683	0,0241	4,570614
	Female	-.8836208	.4132838	-0,0495	-0,84493
	Other race	-.1119767	.8940651	-0,0063	-0,10083
	Mixed race	-.0300771	.9703707	-0,0017	-0,02829
Household characteristics	HH income	-.0000384	.9999616	0	-0,0326
	Pipe Water	-.4232667	.6549039	-0,0237	-0,4496
	Number of sibling (aged 0-4)	.0650634	1.067227	0,0036	0,023423
	Number of sibling (aged 5-14)	.0932347	1.097719	0,0052	0,164819
Household head's education status	Primary	-.1534262	.857764	-0,0086	-0,14397
	Secondary	-.4538377	.6351858	-0,0254	-0,36869
	Higher	-.8220376	.4395351	-0,046	-0,62817
Community characteristics	North East	.0719615	1.074614	0,004	0,068365
	South East	.0599468	1.06178	0,0034	0,057033
	South	.3093642	1.362559	0,0173	0,321061
	Centre West	.1926462	1.212454	0,0108	0,19378
	Residence	11.95788	3.306162	0,0669	1,594077
	Adult Unemployment Rate	-11.32926	.000012	-0,6342	-0,61791
	State gini index	-.6002898	.5486526	-0,0336	-0,30382
1993	-.0760661	.9267549	-0,0043	-0,06951	
1995	-.1146442	.8916833	-0,0064	-0,10326	
1996	-.2855351	.7516119	-0,016	-0,23973	
1997	-.230893	.7938244	-0,0129	-0,19811	
1998	-.2228439	.8002397	-0,0125	-0,19272	
1999	-.1609344	.8513479	-0,009	-0,14244	
2001	-.3229807	.7239879	-0,0181	-0,26941	
2002	-.3334634	.7164381	-0,0187	-0,27715	
2003	-.3885244	.6780567	-0,0217	-0,31639	
2004	-.4639025	.6288249	-0,026	-0,36807	

2005	-.3893835	.6774744	-0,0218	-0,31738
2006	-.5288725	.589269	-0,0296	-0,41002
2007	-.5388784	.5834022	-0,0302	-0,41562
2008	-.7004351	.4963693	-0,0392	-0,50931

Source: Our calculations based on Brazilian PNAD 2008 data

Table 5.12: Logistic regression results obtained from PNAD using “only working, only schooling, combining employment and schooling, inactive” children as dependent variables

Explanatory Variables	Employment		Schooling		Employment and Schooling		Nothing (Inactive)	
	Logit	Elasticity	Logit	Elasticity	Logit	Elasticity	Logit	Elasticity
Age	.5627077	6,30886953	-.188902	-0,380133	.322269	3,4302154	-.074916	-0,79175328
Female	-.830139	-0,84414936	.455777	0,081270	-.695699	-0,663174	.181099	0,17003660
Other	.115536	0,12088033	-.058888	-0,010685	-.188285	-0,165141	.219474	0,22408988
Mixed	.069644	0,06926618	-.042586	-0,007599	-.064358	-0,060749	.102025	0,09565305
Household Income	-.00023	-0,206526	.00016	0,025817	1.54e-06	0,0013087	-.000560	-0,47414347
Pipe Water	-.570348	-0,686622	.501438	0,098754	-.220918	-0,222123	-.367158	-0,38192291
Sibling (aged 0-4)	.2924007	0,11127985	-.294063	-0,020086	-.068410	-0,024716	.3439349	0,123384298
Sibling (aged 5-14)	.005122	0,95723995	.077223	2,590201	.115989	20,578144	-.165144	-29,0916894
Primary	-.387251	-0,38418129	.2379891	0,0423418	.0086747	0,0081887	-.232619	-0,21738158
Secondary	-.832368	-0,62346447	.5742025	0,0888335	-.204127	-0,180092	-.523279	-0,41501711
Higher	-1.156.6	-0,85056672	.9768132	0,1431994	-.555914	-0,453768	-.904091	-0,67649458
North-East	-.092006	-0,09020432	.120055	0,021165	.118767	0,1140162	-.290104	-0,26182609
South-East	.4067753	0,44410532	.003736	0,000666	-.085546	-0,079442	-.061094	-0,05660351
South	.7262678	0,95066375	-.338844	-0,065198	.083595	0,0810193	.311313	0,32188246
Centre-West	.3445477	0,393317	-.137439	-0,025381	.099439	0,0971828	.109253	0,10632202
Residence	.7914958	1,02758604	-.773845	-0,159607	1.017.55	1,2947244	-.004277	-0,00400365
Adult	-6.5479	-0,377528	5.313.20	0,05498	-1.037.7	-0,568024	2.803.52	0,1523716
Unemployment Rate								
Gini Index	2.152	1,15138	-.422103	-0,04053	-1.711.5	-0,8693	.186871	0,09424
1993	-.20823	-0,18975080	.12266	0,021149	.0265	0,0252679	-.084934	-0,07709775
1995	-.339833	-0,29377051	.222413	0,037285	.069193	0,0670627	-.198413	-0,17270464
1996	-.572184	-0,44501717	.477256	0,073695	-.010125	-0,009517	-.358835	-0,29202143
1997	-.74811	-0,54280877	.501770	0,076926	.140691	0,1327930	-.494043	-0,46300840
1998	-.928154	-0,64237246	.43775	0,068947	.202756	0,2069898	-.478105	-0,37568581
1999	-1.02515	-0,68603802	.4712879	0,073517	.3020074	0,3204984	-.631120	-0,46982337

2001	-1.240.9	-0,77474554	.6209687	0,092848	.1912568	0,1942748	-.741877	-0,53241087
2002	-1.2378	-0,77421219	.6417574	0,095409	.1704193	0,1717021	-.789974	-0,74035084
2003	-1.2708	-0,78508557	.7025247	0,102557	.1135993	0,1119926	-.871158	-0,59811693
2004	-120.787	-0,76419905	.7447173	0,107550	.0100584	0,0095300	-.864550	-0,59616206
2005	-1.149.7	-0,74215981	.7156396	0,104262	.0711212	0,0689651	-.897865	-0,61271314
2006	-1.26208	-0,78431136	.8242943	0,116332	-.050622	-0,046875	-.940491	-0,63229044
2007	-1.16284	-0,74357059	.8423851	0,118025	-.091781	-0,083657	-.969713	-0,6437904
2008	-1.3791	-0,81801540	.9609519	0,129784	-.209336	-0,182441	-1.016.4	-0,66243324

Source: Our calculations based on Brazilian PNAD 2008 data

6.2 Econometric Evidence from Turkey

Working children is a serious problem in many developing countries, including Turkey. Child labor in Turkey needs to be considered aspects including demography, education, economics and social development, and to be evaluated different perspectives. In cities, children are engaged in economic activities such as street vendors, apprentices and blue-collar workers, workers in service sector (in restaurants, coffee houses etc.) and most of children work under hazardous conditions, are engaged in the worst form of child labor. Unfortunately, some children are exposed to abuse; some of them are forced to work like slave. In rural areas, most of children engage in agricultural sectors and large percentage of children work in family establishments as unpaid family workers.

In previous years, in order to fight against child labor and to develop a greater understanding and awareness of the problem, replicable direct action programs and expanding into socio-economic policies, programs are implemented by budgets of the country.

In 1997, The Government of Turkey raised compulsory years of schooling from five to eight years which induces to stay in school. Children's first two tiers are combined in order to combat with child labor, and thus they remain in school until age 15. Moreover, moving from in 1998 signed ILO Convention 138, the minimum age of employment raised from 12 to 15 years old. Furthermore, in 2001 Turkey ratified ILO Convention 182 which means that the elimination of the worst forms of child labor covering all children under 18 years of age.

Turkey has a large population. According to official sources, population is estimated around 72 million with %35 of the population contains 0-18 year-old-age group. Recent researches-based on the 1999 Child Labor Survey (CLS) conducted by the State Institute of Statistics (SIS) of Turkey- indicate that 510,000, or 4.2%, of the children in the 6–14 year-old age group and 1.1 million, or 28%, in the 15–17 year-old age group are engaged with market work (Erturk and Dayioglu 2004). Consequently, in 1999 1.636 million children between 6 and 17 year-old are economically active. The likelihood of children's employment increases with age. Same pattern has been observed in Brazil, as indicated. In addition to literature on children's work in Turkey, Tunali (1996) observes that girls are less likely than boys to engage in market work. On the other hand, in rural areas the likelihood of engaging in economic activity is higher especially for male children (Akin, 2009).

Akin (2009) also indicates a dramatic situation: There is the most critical aspect of child labor which is the long hours of work. In 1994, children 6–14 years of age are engaged in economic activity for an average of 38.4 h per week. In 1999, this participation increases to 40.2 h. It is obviously seen that, working hours also extends with age. This situation induces to not full time attending to school. Moreover, the average hours of work per week among the 15–17 year-olds is 47 h in 1994 and 47.7 h in 1999. Unfortunately, Akin (2009) emphasizes that there is not any change for working time of the child since then.

In order to cover perfectly the situation of children's work in Turkey, the "work" phenomenon should be handled as a dynamic process by considering socio-economic norms. Especially, in Turkey, the restrictions of illegal sectors, the definition of household and work are ambiguous. At this point, child labor should be considered as a factor for household's living even if children are unpaid family workers. Consequently, child labor should be argued without looking their economic activities (unpaid family workers, wage workers etc.) (Inal, 2010).

On the other hand, after 3 years, poverty was still at high level. According to the 2004 official estimations in Turkey, 20 percent of children are in poverty, 12 percent of children are deprived from nutrition, this rate increase to 23 percent in urban areas. Sonmez (2007) emphasizes that dramatic consequence: Poverty has

increased in Turkey, and it affects almost half of the population. Urban poverty is a particular problem in major cities.

Tansel (1998) also examines the determinants of the demand for schooling in Turkey. The most significant determinants of low school attainment in Turkey are parents' education which may induce to less intergenerational socioeconomic mobility, and thus, household permanent income may cause household poverty. Parents' education and permanent income have different effects for female and male children. In clearer expression, the effects are larger for the school enrolment of female children. Socio-cultural norms may induce these differences excluding other causes. She also expresses that school enrolments at primary level in Turkey are at high levels for both female and male children. However, she adds that substantial regional differences have still remained. On the contrary of primary level, middle school and high school levels are low, because of children's work reduces with age.

However, in Dayioglu's paper (2005), another interesting finding is that children from poorer families face a lower likelihood of school enrolment in 1999 than in 1994. She also finds the negative impact of poverty for the schooling of female children. It is clearly deduced from this finding, poor families pull out of work their female children when they face improvements in their household budgets and when they face deterioration in household income, female children also work for additional income.

Household characteristics are also important determinants of child labor in Turkey. In that context, Dayioglu finds the parents of working children are relatively less educated which can explain household's poverty and the relatively high share of working children's incomes in the household budget. She also indicates that the wealth index is related to the child labor. She observes the likelihood of children's employment is found to be significantly higher in the bottom three wealth quintiles as opposed to the top quintile.

Dar et al. (2002) indicate that Tunali (1996) finds that the educational status of parents is not significantly associated with child labor by using a fixed-effect logit model in Turkey. Despite the Tunali's finding Dar et al. (2002) underline the model

difference: if the conventional logit estimations are used, the household head's educational attainment are significant, in which case this means that parents' educational attainment affects the participation of children in market work.

This section will present less information about child labor, compared to Brazil. Because the data we have used, does not provide detailed statistical background as well as PNAD. We use the data collected in 2006 and named as Household Budget Survey including Child Labor Module. The data is belonged to 2006; therefore we may not examine how child labor changes over time.

On the other hand, the data is modified for this thesis. We had to create some variables to run the logistic regressions correctly. Firstly, we use income (means that "wage" income) as explanatory variable. Also, the original survey does not include some household's income, because "income" variable indicates "wage" income, not all family income in PNAD. Because some families have no wage income, the data include "nulls". Therefore we create the percentiles of income. Secondly, the "age" variable is existed as "age group". We create dummy variables for every age group of children; "6-11", "12-14" and "15-17" years old are all used as dummy variables. Lastly, we create household head education capturing from all members of household. We use "household head education" variable under 5 categories: primary, secondary and high school education, vocational training and higher education (including graduated from universities).

In order to explain why have declined child labor in Turkey, the logistic regression models are used in this section. "Working Children" (5-17 years old) variable is selected for "dependent variable", while male, residence, number of sibling, household head education and household income are all selected for explanatory variable.

Using these variables, we compute the Logistic Regression Models in STATA. We analyses the incidence of children's work for three age group: first model covers 6-17 years old of working children, second model is for aged 6-11 and the last model is for aged 12-14. The tables present the coefficients of Logistic Regression Models.

Moreover, the odds, the marginal effects and elasticity of each explanatory variable are presented to interpret the incidence of children's work.

Little is known about the income/expenditure/consumption needs of children in most developing countries and how these needs may vary by age, gender and location (Gordon et al. 2003). Also, household income or poverty is root causes of children's work. Grootaert and Kanbur (1995) indicate the importance of poverty and household income on child labor. Therefore, we use "household income" variable to inform about child poverty which has effects on children's work. Using household income as well as various other indicators, the thesis aims to investigate the relationship between the economic status of the household and the incidence of child labor in Turkey. As given information from literature in the section of Brazil, household income effects children's work. A similar pattern is observed in Turkey. As expected, because of using income variable as percentile, we obtain detailed ideas about the impacts of income for each income group of Turkey.

Children are pulled out of the labor force with improvements in household budget and living standards in Turkey. The results are in line with Dayioglu (2006) who emphasizes household income is related to child labor. As mentioned earlier and indicated by Dayioglu (2006), the income transfers to poor household can be used in withdrawing children from the labor market and in re-orienting them toward school.

On the other hand, household income may be understand from another perspective, as indicated by Cigno and Rosati (2005), the lower full household income, the higher is in fact the incidence of the fixed access costs. In addition to this perspective, household income must reach a certain level in order to get over the fixed cost of access to education. They also mention Edmond's study (2005) which illustrate improvements in household income status explain 80 per cent of the decline in child labor observed between 1993 and 1997 in households.

Tunali (1996), using household-level micro-data, finds child's age and gender, parental education and the region of residence to be important determinants of child labor. The results are in line with Tunali (1996), Dayioglu (2006) and the general findings of literature. As all literature indicated, children are generally more likely to

work with age. However, there are different impacts of each group on children's work.

In addition to findings, parental education is an important motivation of children's work. As illustrated at the tables, when parental education is higher, children are more likely to be out of work. Household income increases with education. Children coming from more educated families are more likely to attend to school full time. Children's work should be also considered regarding the human capital. There is an association with household income and human capital. As known, child labor is a barrier for human capital and national development. He emphasizes that economists hypothesizes that is about the educational attainment, health, and nutrition of an individual affect that person's labor power. He adds that an improvement in health, nutrition or education increases a person's productivity and thus income increases. Human capital is closely associated with the rate of technological innovation in the society.

The findings generally indicate that the improvements in household income reduce the incidence of children's work. However, there are some exceptions for each income group. For children 12-14 years old and coming from relatively rich families are more likely to work. The results are in line Edmonds and Pavcnik (2002) who observe children in households that hold small amounts of land are slightly more likely to work relative to children in households with no landholdings. According to the finding, there are two factors: firstly, children's work increase with age; secondly, children in some rich families are more likely to work as literature indicated. This result also confirms the model for children aged 6-11.

Cigno and Rosati (2005) reference Basu's assumption which indicates that parents are willing to let their children work only if the alternative is starvation reflects the widely held belief that child labor is the consequence of extreme poverty, but contrasts with the evidence that child labor persists at levels of household income well in excess of subsistence. The results are in same vein with Cigno and Rosati (2005). Moreover, they determine this situation as "schizophrenic".

Cigno and Rosati (2005) observe that poverty has a positive effect on the probability of an extra birth and full household income encourages fertility. They find the existence of siblings in either age group has the effect of reducing the probability that a school-age child will attend school, and of raising the probability of children's work. The results are in line with Cigno and Rosati (2005). Similar finding illustrates that the incidence of child labor increase with the number of siblings, is observed in Turkey.

Table 5.13: Logistic regression results obtained from CLS using working children as dependent variable

	Coefficient	Odds	Marginal Effect	Elasticity
Male	0.91256	2.490702	0.0212	0,908556
Rural	0.48989	1.63213	0.0114	0,517505
Sibling	0.04321	1.044154	0.0010	0,083883
Primary	-0.38453	.6807722	-0.0089	-0,3819
Secondary	-0.98149	.3747524	-0.0228	-0,68733
High School	-1.42072	.2415397	-0.0329	-0,84672
Vocational Training	-1.91611	.1471778	-0.0444	-0,96521
Higher	-2.98485	.0505469	-0.0692	-1,17522
Income Group 1	-0.33668	.7141365	-0.0078	-0,28809
Income Group 2	-0.90648	.4039418	-0.0210	-0,6487
Income Group 3	-0.66866	.5123972	-0.0155	-0,52284
Income Group 4	-0.29878	.7417219	-0.0069	-0,26003
Income Group 5	-0.28299	.7535273	-0.0066	-0,24761
Income Group 6	-0.23651	.789377	-0.0055	-0,21135
Income Group 7	0.03437	1.034965	0.0008	0,034001
Income Group 8	0.11139	1.117832	0.0026	0,11338
Income Group 9	0.05996	1.061794	0.0014	0,05993
Age2	-3.21571	.0401267	-0.0746	-4,5037
Age3	-1.33024	.2644125	-0.0308	-1,01267

Table 5.14: Logistic regression results obtained from CLS using working children as dependent variable

	Coefficient	Odds	Marginal Effect	Elasticity	Coefficient	Odds	Marginal Effect	Elasticity
Male	0.55062	1.734333	0.0033	0,548445	0.81165	2.251609	0.0358	0,783149
Rural	0.77624	2.173292	0.0047	0,888041	0.60244	1.82657	0.0266	0,625401
Sibling	-0.02148	.9787512	-0.0001	-0,04469	0.06901	1.071449	0.0030	0,135236
Primary	-0.35715	.6996682	-0.0022	-0,35953	-0.29402	.7452645	-0.0130	-0,28411
Secondary	-0.76717	.4643247	-0.0046	-0,58143	-0.87747	.4158354	-0.0387	-0,62754
High School	-2.85928	.05731	-0.0173	-1,21531	-0.77584	.4603188	-0.0342	-0,55796
Vocational T.	-1.64069	.1938455	-0.0099	-0,90894	-1.53038	.216453	-0.0675	-0,84667
Higher	-2.81458	.0599301	-0.0170	-1,1735	-2.96617	.0515002	-0.1308	-1,155
Income Gr. 1	-0.82654	.4375621	-0.0050	-0,59778	-0.48511	.6156275	-0.0214	-0,38727

Income Gr. 2	-1.01270	.3632354	-0.0061	-0,71468	-0.91639	.39996	-0.0404	-0,64536
Income Gr. 3	-0.63101	.5320523	-0.0038	-0,50731	-0.89789	.4074295	-0.0396	-0,6448
Income Gr. 4	-0.46587	.6275865	-0.0028	-0,38669	-0.38127	.6829932	-0.0168	-0,31593
Income Gr. 5	-0.91838	.3991658	-0.0055	-0,64713	-0.40960	.663917	-0.0181	-0,33618
Income Gr. 6	-1.10208	.3321783	-0.0067	-0,74083	-0.78199	.4574944	-0.0345	-0,56934
Income Gr. 7	0.12392	1.131929	0.0007	0,129593	-0.24819	.780213	-0.0109	-0,21611
Income Gr. 8	0.03318	1.033733	0.0002	0,033402	-0.21450	.8069483	-0.0095	-0,18978
Income Gr. 9	-0.54090	.582222	-0.0033	-0,43558	-0.26180	.7696642	-0.0115	-0,22702

Source: Our calculations based on CLS 2006

7. CONCLUSION

This thesis provides the determinants of child labor regarding case studies in the world. Moreover, the thesis focuses on empirical evidences for children's work in Brazil and Turkey, and also analyses how children's work decreases because of the eliminating programs. Among these programs, we especially consider the Conditional Cash Transfers for poor households in Brazil and Turkey. Generally, we observe same patterns compared to Brazil and Turkey. However, there are "specific" findings for each country. PNAD provides detailed opportunities for analyses in order to how children's work changes over time, while Child Labor Survey 2006 provides less information for child labor trend in Turkey.

Considering comparisons between Brazil and Turkey, some findings may be merged. The results are in line with OECD report which provides detailed information on child labor in developing countries. According to these comparisons:

- a) Child labor is a very heterogeneous phenomenon. There may be important differences appear among countries in the same area. Moreover, child labor may include different patterns among regions in the same country,
- b) In considering the mechanisms through which affects child labor in Brazil and Turkey, we observe that "poverty" is the first motivation in children's work,
- c) Child labor is a predominant characteristic of poor households,
- d) Age and gender play an important role in the incidence of child labor. Child labor increases with age. In general, older male children are more likely to engage in wage work, while female children engage in domestic chores. According to the results obtained from PNAD, the coefficient of female -

.8836 is equal to the log of the odds ratio between females and males. So, odds ratio for females (the ratio of the odds for female to the odds for male) is equal to $\exp(-.883)=0.4135$. This means that the odds, $p/(1-p)$, for females are lower than the odds for males. So, the odds for females are 59 % lower than the odds for males.

- e) In most cases, female children may work longer than male children.
- f) Working children are generally engaged in agriculture, household establishments as unpaid family workers.
- g) No clear pattern appears on the link between child labor and schooling even if there is some evidence that (see UCW 2010) the first negatively affects the second both in terms of attendance and performance.
- h) There is no conclusive evidence on the link between household income and the incidence of child labor.
- i) Working at young age induces to some health problems which continue in adult life.

On the other hand, we observe children are not independent; their time allocations are dependent to their families. The result are in line with Cigno and Rosati (2005) who indicate the decisions concerning children's consumption, education, and work activities are taken by children's parents.

We find that most of children work: because their families need additional income to survive for both Brazil and Turkey. We emphasize that child labor increases with poverty, with the cost of education, with the opportunity cost of education and with number of sibling. The improvement in household income and the reduction in the opportunity cost of child's time induce to reduce the incidence of child's work. In addition, access to water, electricity and other basic utilities decreases the probability of children's work.

We illustrate a specific result for Brazil: deteriorations in labor market conditions (or increases in adult unemployment rate) induce to declines in child labor. Our results are in line with Kruger et al. (2007). They use agricultural shocks to local economic activity (from coffee production and overall agricultural production) as a way to distinguish between the roles of increases in family wealth

(income effect) and in the opportunity cost of children's time (substitution effect) in determining the incidence of child labor. Also, permanent household income and wealth reduce the incidence of child labor; increase the incidence of school attendance.

The Hague Report (2010) emphasizes that “*child labor can lead to social vulnerability and social marginalization, and can permanently impair the attainment of personal and productive potential, in turn influencing lifetime patterns of employment and earnings*”. The report underlines that child labor therefore generates important constraints to national development goals.

Table 5.15 presents information about comparison between working children in Brazil and Turkey (2006).

Table 5.15: Working Children in Brazil and Turkey in 2006

	Employment	Number of Children in Employment	Total Children
Brazil	%10	10.956	n= 99.792
Turkey	%3.91	1.636	n= 41.882

Source: Our calculations based on PNAD and CLS

“Poverty alleviation policies certainly help reduce child labor and mortality-reducing policies (from mass immunization to safe piped water) reduce fertility and, largely but not exclusively through that, child labor (Cigno and Rosati, 2005).”

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APPENDIX

The estimations of PNAD:

	1992	1993	1995	1996	1997	1998	1999
Age	.43404***	.43966***	.4375***	.43302***	.4123***	.41416***	.41202***
Female	-1.039***	-.94031***	-.91586***	-.95957***	-.928***	-.90122***	-.90022***
Other	-.10316*	-.10934*	-.11882*	-.1745***	-.16717**	-.017707	-.18627***
Mixed	-.053655*	-.056171*	-.024723	-.058382*	-.049529	-.10396***	-.022017
Frendtot	-.00010***	-.00008***	-.000069***	-.000026**	-.000011	-.00004***	-.000039***
Pipe Water	-.43103***	-.39968***	-.41902***	-.43977***	-.42801***	-.48137***	-.50865***
Sibling 0-4 years old	.10366***	.091045***	.10016***	.080771***	.086954***	.01407	.000196
Sibling 5-14 years old	.088197***	.10693***	.11048***	.0958***	.10311***	.10273***	.13621***
Primary	-.21887***	-.2111***	-.31469***	-.15881***	-.096456***	-.15778***	-.12251***
secondary	-.67545***	-.59458***	-.68146***	-.56278***	-.46412***	-.63328***	-.47595***
Higher	-.84171***	-.9797***	-.96737***	-.9798***	-.86372***	-.89237***	-.76857***
North-East	-.12543**	-.12729**	-.058142	.044356	-.11488*	-.12279**	-.17632***
South-East	.069179	-.036702	-.004212	.19464***	-.053558	-.095281*	-.19612***
South	.48007***	.34935***	.51274***	.49504***	.1862***	.20825***	.12628*
Centre-West	.30607***	.15961**	.22537***	.3841***	.041577	.096624	-.033069
Residence	1.3419***	1.3178***	1.2486***	1.0498***	1.0618***	1.1429***	1.2358***
Unemployment Rate	-3.5424***	-8.6529***	-10.263***	-12.905***	-13.155***	-14.399***	-11.328***
_cons	-6.2974***	-6.2569***	-6.1949***	-6.2805***	-5.7982***	-5.6108***	-5.7607***

legend: * p<.05; ** p<.01; *** p<.001

	2001	2002	2003	2004	2005	2006	2007	2008
Age	.42533***	.43005***	.43737***	.44147***	.42127***	.42519***	.45503***	.48436***
Female	-.84864***	-.82137***	-.81155***	-.89397***	-.8289***	-.7731***	-.7917***	-.82344***
Other	-.15854**	-.12784*	-.23282***	-.03348	-.14425**	-.095752	-.003084	.025656
Mixed	-.003491	.0033	-.025487	-.005215	-.008715	-.026845	-.006278	.027976
Frendtot	-.00003**	-.000025*	-8.7e-06	-.000014	-.000029**	-.000024*	-7.0e-06	-.000015
Pipe Water	-.27124***	-.32581***	-.27449***	-.35049***	-.48399***	-.47696***	-.41058***	-.45848***
Sibling 0-4 years old	.089607***	.039522*	.048867*	.073697***	.040571*	.033543	.068209**	.055128*
Sibling 5-14 years old	.10792***	.095457***	.083276***	.063731***	.094265***	.060742***	.068796***	.076566***
Primary	-.11736***	-.072678*	-.16627***	-.12011***	-.11682***	-.092291**	-.096052**	-.056944
secondary	-.36366***	-.31318***	-.35616***	-.43072***	-.34322***	-.34301***	-.21494***	-.29764***
Higher	-.80388***	-.71557***	-.92072***	-.80749***	-.75345***	-.78217***	-.67688***	-.54797***
North-East	.2181***	.023371	-.012735	.26781***	.24729***	.34941***	.12726***	.20314***
South-East	.20108***	.012685	.002607	.13067**	.15119***	.34732***	.047895	.066808
South	.32836***	.15647**	.07984	.30283***	.42127***	.42519***	.45503***	.48436***
Centre-West	.22912***	.063059	-.19753***	.1944***	-.8289***	-.7731***	-.7917***	-.82344***
Residence	1.3488***	1.307***	1.2571***	1.2804***	-.14425**	-.095752	-.003084	.025656
Unemployment Rate	-10.925***	-12.284***	-12.999***	-14.882***	-.008715	-.026845	-.006278	.027976
_cons	-6.68***	-6.4697***	-6.4408***	-6.6182***	-.000029**	-.000024*	-7.0e-06	-.000015

legend: * p<.05; ** p<.01; *** p<.001

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