Essays on Child Labour, its Relation with Competitiveness of Labour Intensive Exports, its Determinants and Education in India

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Abstract

This Dissertation is a collection of articles all related to child labour. A multi country analysis estimating performance of labour intensive exports was performed and the results revealed that child labour negatively influenced the labour intensive exports share to GDP. Using National Sample Survey data from India, determinants of child labour were studied. It was found that family characteristics, especially literacy levels had a significant relationship with the activity status of the child. With the same data set, returns to education in the informal and formal labour markets were studied for rural and urban India. Results showed that returns were lower in the informal market, rural regions and in the primary sector. A Cost Benefit Analysis was performed to examine the net benefits of educating all out of school children and the results showed that such a project would be within the reach of Indian Government.

List of Abbreviations

CBA	- Cost Benefit Analysis
CEPC	- Carpet Export Promotion Council
CIA	- Central Investigative Agency
CIESIN	- Centre for Earth Science Information Network
CLS	- Core Labour Standards
UN COMTRADE	- United Nations Commodity Trade Database
CRC	- Convention on the Rights of the Child
DALY	- Disability Adjusted Life Years
EPZ	- Export Processing Zone
EU	- European Union
FDI	- Foreign Direct Investment
GATT	- General Agreement on Tariffs and Trade
GCF	- Gross Capital Formation
GDP	- Gross Domestic Product
HDI	- Human Development Index
ICFTU	- International Confederation of Free Trade Unions
ILO	- International Labour Organisation
ILS	- International Labour Standard
IPEC	- International Programme for Elimination of Child Labour
ITO	- International Trade Organisation
MDGs	- Millennium Development Goals
na	- not available
NAFTA	- North American Free Trade Area

NCLP	- National Child Labour Project
NDP	- Net Domestic Product
No.	- Number
NSS	- National Sample Survey
NSSO	- National Sample Survey Organisation
OECD	- Organisation for Economic Co-operation and Development
pc	- per capita
PPP	- Purchasing Power Parity
PTR	- Pupil Teacher Ratio
SACCS	- South Asian Coalition on Child Servitude
UN	- United Nations
UNICEF	- United Nations International Children's Fund
UNSTAT	- United Nations Statistics
US$	- United States Dollar
USA	- United States of America
USD	- United States Dollars
WTO	- World Trade Organisation

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"The promises of the past have left us disenchanted. The result is not what you said, which is why we are worried."

Gael, 18, from Chad, speaking at the UNICEF Children's Forum.

1 Introduction on Child Labour

Childhood is the most important stage in human life that shapes the future individual, through formal education, self-learning through playing and interaction with other children, adults and nature, into a better person in private and public life who is aware of rights and responsibilities. However, not all children are at advantage to enjoy their childhood. Millions of children are toiling at inhumane working conditions to earn their livelihood. This issue of child labour has been widely researched and debated for decades but it is still a significant issue for many developing nations. In each country child labour is caused by unique mix of level of economic development in the country, social attitudes towards children, cultural factors, educational quality and quantity, duality in labour market, labour laws governing labour markets and the stringency with which they are enforced. It is aptly described, as 'child labour is a symptom and not the problem'. Despite the countless policies and programmes launched against the issue, the resultant dent caused in the numbers is very meagre. This study is a further addition to existing knowledge on child labour, with special focus on educational and employment issues related to child labour in India.

1.1 Core Labour Standards

Labour standards are the workers' rights provided and enforced by the national governments. The wages and working conditions of the working class mirror the labour standards prevalent in a country. Certain labour standards are universal in nature since they are synonymous with basic human rights. These basic rights of the labourers serve as a foundation for other labour rights. Such standards are termed as ***Core Labour Standards*** (CLS). The 1998 International Labour Organisation (ILO) Declaration on Fundamental Principles at Work named these core standards. They are the following:

1. Right to collective bargaining and freedom of association
2. Equality of opportunity
3. Freedom from forced labour
4. Abolition of child labour

The principles of core labour standards are reflected in eight ILO conventions stated below, which are named as ***Fundamental Conventions***.

1. Freedom of association and protection of right to organise convention, 1948 (Convention No.87)
2. Right to organise and collective bargaining convention, 1949 (No.90)
3. Equal remuneration convention, 1951 (No. 100)
4. Discrimination (Employment and occupation) convention, 1958 (No. 111)
5. Forced labour convention, 1930 (No.138)
6. Abolition of forced labour convention, 1957 (No.105)
7. Minimum Age convention, 1973 (No. 138)
8. Worst forms of child labour convention, 1999 (No.182)

The numbers inside the brackets indicate the ILO convention number. The first two conventions are related to union rights. The next two conventions deal with the equal rights in work place. The next two conventions aim at abolition of forced labour. The last two conventions deal with abolition of child labour.

The 1998 ILO declaration states that all members, even if they have not ratified the conventions in question, have an obligation arising from the very fact of membership in the organisation, to respect, to promote and to realize, in good faith and in accordance with the constitution, the principles concerning to the fundamental rights which are the subject of those conventions. This declaration has been celebrated in legal circles as a primary step towards international constitution (Alston, 2004). However, ILO has no powers to implement the ratified conventions. It depends on expert advice, monitoring methods and surveys to ensure that the ratified countries comply with the conventions. These labour rights are also reflected in UN covenants[1] including the Convention on the Rights of the Child (CRC) and are ratified by many countries (United Nations, 2007).

[1] Covenant on civil and political rights, Covenant on economic, social and cultural rights.

1.2 Child Labour

Child labour should be viewed differently from the other three core labour standards; for it is not just a labour issue but it is a serious social and economic issue confronting the developing world. International organisations and national governments have put much effort forth alike that the recent statistics have started showing a downward trend in child labour incidence especially the worst forms of child labour (ILO, 2006). Having child labour listed as a core labour standard, reflects the commitment of international organisations in combating the issue. Though child labour has endured in many countries for decades, increasing trade between the developed and developing countries has helped to bring the issue into focus, and there is an increased awareness among the public. Because of the concerns about child labour, it is always under focus and has been a subject of intense scrutiny in public minds. Moreover, the research and outreach activities of the non-governmental organisations have increased considerably in this sector over the past decade.

1.2.1 Current Trends in Child Labour

The recent statistics on child labour presents a hopeful picture. The child labour numbers is found to be decreasing in many parts of the world. Only in Sub-Saharan Africa, the number of economically active children has increased. The reduction in activity rate for the same region is due to increase in the child population. Activity rate in Sub Saharan Africa continues to be the highest with 26.4 % of the child population working. All other regions have experienced a fall in the number of child labourers. Asia and the pacific regions, despite the decrease in child labour numbers is still the highest in the world. The higher number, among other reasons, is also due to presence of most populous nations in the region, viz. India and China.

Table 1.1 Global Trends in Children's Economic Activity by Region [a]

Region	Child Population (million)		Economically Active Children (million)		Activity Rate (%)	
	2000	**2004**	**2000**	**2004**	**2000**	**2004**
Asia and the Pacific	655.1	650	127.3	122.3	19.4	18.8
Latin America and the Caribbean	108.1	111	17.4	5.7	16.1	5.1
Sub-Saharan Africa	166.8	186.8	48	49.3	28.8	26.4
Other Regions	269.3	258.8	18.3	13.4	6.8	5.2
World	1 199.3	1 206.6	211	190.7	17.6	15.8

Source: ILO (2006); a – children in the age group5-14 years.

Efforts against child labour in Sub Saharan Africa needs to be stepped up. Children are engaged in very hazardous employments in Africa especially as child soldiers in nations rife with civil conflicts. International organisations should increase their efforts to contain the issue.

The trend for two age groups is presented in table 1.2. The children are grouped in by their age as, under 5-14 years and 15-17 years. These statistics show that child labour is decreasing and importantly in the hazardous employment. Child labour in both the age groups show reductions. The highest reduction is noted in children engaged in hazardous work especially the children in the younger age group show a reduction of 33.2 %. The decrease noticed in child labour numbers in many parts of the world is a relief as it is noticed for the time.

Table 1.2 Trends in Child Labour Statistics by Age Group

Age Group	Child Population		Of which economically active		Of which younger than 12 years		Of which employed in hazardous Works	
	2000	**2004**	**2000**	**2004**	**2000**	**2004**	**2000**	**2004**
5-14 Years **(millions)**	1199.4	1206.5	211	190.7	186.3	165.8	111.3	74.4
Incidence (% of Age Group)	100	100	17.6	15.8	15.5	13.7	9.3	6.2
% change from 2000 to 2004	–	0.6	–	-9.6	–	-11	–	-33.2
15-17 Years **(millions)**	332	359.8	140.9	126.7	59.2	51.9	59.2	51.9
Incidence (% of Age Group)	100	100	42.4	35.2	17.8	14.4	17.8	14.4
% change from 2000 to 2004	–	8.4	–	-10.1	–	-12.3	–	-12.3

Source: ILO (2006).

1.2.2 Definition of Child Labour

There is a conflict between the eastern and western notions of childhood. The rigid western view being that labour below the age of 18 is exploitation and leaves no room for other variants for other countries with different patterns of social and economic development (Gayathri and Chaudhri, 2002). These conflicting notions have led to debates about who should be defined as children (definition based on age) and what is child labour (definition based on the nature of work). Many countries including India define a child as a person under the age of 14 years and most international conventions define them as persons under the age of 18 years. In addition, the difference between 'child work' and 'child labour' needs to be highlighted. As in the eastern world, child work is a part of growing up in consonance with family values and structure and is acknowledged that the child is being able to contribute to the well being of the family (Gayathri and Chaudhri, 2002). Child work includes light domestic chore and they have certain learning values, which aids in the child's mental and cognitive development. Rural work primarily in agriculture is sometimes included with child work because it is light and is often combined with schooling. When child

work turns into child labour taking away time from attending the school and their leisure time, it damages the normal development of a child. In simplified terms, child labourers can be defined as economically active children who do not attend schools and receive a monetary benefit for the work they do.

1.2.3 Efforts of International Organisations

Efforts of various international organisations including the ILO were very crucial in highlighting the plight of working children and abolishing child labour. ILO convention numbers, 138 on minimum age and 182 on worst forms of child labour deal with child rights and many nations have ratified these conventions. Abolition of child labour was also included as a core labour standard first by the Organisation for Economic Cooperation and Development (OECD) and the ILO. The International Convention on the Rights of the Child (CRC), which aims at abolishing child labour, was adopted by the UN in 1989 and came into force in September 1990. It is ratified by all nations except US and Somalia. The committee on the rights of a child monitors its enforcement. CRC defines any person under the age of 18 as a child. Many countries have ratified both the ILO and UN conventions and made laws declaring a ban or a semi ban on child labour. A semi ban on child labour prevents young children from being employed only in hazardous industries. UNICEF focuses on all aspects related to children starting from nutrition to education. It frequently publishes reports on various children related topics and country related studies. The principles and provisions of CRC guide the work of UNICEF.

The Millennium Development Goals (MDGs) are eight goals that UN member nations agreed to work upon and achieve by the year 2015. MDGs do not address child labour directly though it aims at reducing poverty and achieving universal primary education. Both poverty and primary education are central to the question of child labour. There had been several criticisms that child labour is missing from the MDGs (Grimsrud, 2003), pointing out that, child labour as an indicator of economic growth and distribution would well serve a MDG (Global March, 2006).

1.3 Child Labour in India

As a developing country with highest child population in the world, the issue of child labour in India is critical and is also widely researched (Cigno and Rosati, 2000). Though percentage of working children is lower in India than many other developing countries, it has the highest number of working children in the world, given its population size. The debate about the definition of child labour has adversely affected the statistics of child labour, where the exact numbers are still eluding. One of the major problems in gaining accurate numbers is primarily due to the employers and parents, who decline to divulge information on working children as child labour is legally banned in many occupations. Therefore, the official statistics might not be showing the real number of working children. According to National Sample Survey (NSS), there are about 9.33 million children in India actively engaged in work in the year 1999-2000. Different sources show different trends in child labour statistics. The downward global trend in child labour numbers is also noticed in the National Sample Surveys' statistics. It shows that it has fallen from 13.95 million in the year 1991 to 9.33 million in the year 1999-2000. However, the census data presents a different picture, showing an increase from 11.28 million in the year 1991 to 12.66 million in the year 2001. The percentage of working children in the labour force, which reveals the intensity of the issue, has decreased form 5.37% in the year1991 to 5% in the year 2001.

The other way of calculating the child labour numbers is by calculating the difference between the total child population and the school enrolment rate (based on the assumption that children out of school are potential child labourers and all enrolled children are attending schools). The difference between such a number and the official child labour numbers shows the number of *'nowhere or idle children'*, who are not enrolled in schools and not reported to be work. These children could be just at home or employed in hazardous occupations banned by law and therefore not revealed by parents and employers. Statistics based on the NSS 55th survey on employment and unemployment data in India in the year 1999-2000 is presented in the Table 1.3 show the discrepancies in data on child labour. The classification is based on the *'usual activity status'*[2] of the respondents in the age group 6 to13 years.

[2] What the respondent have been doing in the past 365 days during the survey period.

Table 1.3 Statistics on Child Population and Working Children

Category of Children	**Percentage of Children**
1.Attending schools	80.8
2.Economically active	0.90
Total reported at school or economically active or both	**81.7**
Household enterprises, Child work and seeking work	3.99
Others	14.31
Total unreported children	**18.3**
Total children	**100**

Source: calculated from NSS 55th survey data.

Around 81.7 % of children in the age group of 6-13 years are reported either at school or they are economically active. A significant percent of children who form the rest are not reported at school or at work. It is a grey area where it is not clearly known where the children are and why they are out of school. Some of them are working in their own household enterprises. Since their wages go directly into the profit of the enterprise, they are not counted as child labourers. It also includes children helping their own families in domestic work, children seeking work and in other types of casual employment where no wages (monetary benefits) are reported. It further includes a group of children classified as 'others', which is not properly defined. Though it is not correct to brand all of them as labourers, it is true that all of them are deprived of education. Few of the children categorised here are disabled children. Absence of schools or facilities at schools to accommodate disabled children is negligence on the part of government and a failure of the government's education policy.

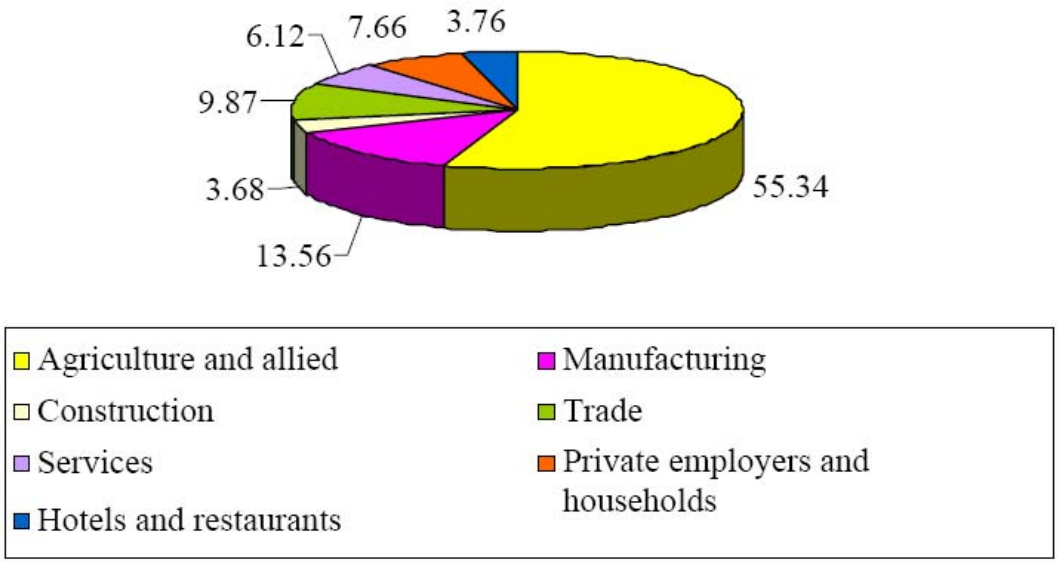

Figure 1.1 Distribution of Child Labour in Different Sectors in India (in percent)

Source: Subbaraman and Witzke (2007).

Figure 1.1 describes the sectors wherein the children are employed. Agriculture and allied activities remains the sector employing more than half of working children in India (55.34%) which happens to be the primary occupation of the Indian labour force. Manufacturing and trade employ 23.43% of child labourers. In the rural areas, agriculture and allied activities is the major sector offering employment to children. About of 75 % of the rural child labourers are employed in this sector.

In urban areas, children work predominantly in the secondary (36%) and tertiary (60%) sectors, with manufacturing, construction, trade, hotels, restaurants, and private and households being predominant employers. The sources of demand for child labour vary widely in rural and urban areas. Child labour is also commonly noticed in export oriented, but traditional industries. Many of these industries happen to be hazardous. They include fireworks industry in Tamil Nadu, carpet industry in Uttar Pradesh etc.

1.3.1 Bonded Child Labour

Bonded labour has endured in South Asia for centuries and is also linked to the longstanding caste based social discrimination. India is the first country to have acknowledged the presence of bonded labourers. Bonded child labour is forced child

labour, and is regarded as one of the worst forms of child labour. Bonded children are employed to repay their parents debt or sold for money to work for a certain period. Sometimes child's work is a part of the forced labour provided by the entire family. Access and the cost of credit keep credit out of reach of poor families. Several studies have demonstrated the negative relationship between an equitable credit market and child labour (Ranjan, 2001).

According to UNICEF, about 40-50 % of the forced labourers are children. The bonded children are very vulnerable, as they are often alone and work under exploitative conditions. They are not paid or underpaid for their work and they live at the work place, often lacking basic amenities. Abuse at work is also not uncommon. Even though, studies into bonded child labourers are limited in number, discoveries of bonded labourers and their subsequent release are frequently reported in the Indian press. Their hideousness arising out of their illegality makes counting or studying them difficult. Despite the strong legal provisions, there is a general lack of will among the enforcing authorities to implement them strictly. Bonded Labour System (abolition) Act, passed by the Indian government in the year 1976 has penal provisions to imprison the perpetrators up to three years in prison. Until the year 2004, 4859 prosecutions were reported under the act (ILO, 2005). Nearly half of them were reported in the state of Uttar Pradesh and data are lacking on the number of convictions.

1.3.2 Efforts against Child Labour in India

India has not ratified the two ILO conventions relating to child labour. However, there are constitutional and legislative provisions in place against child labour. Three articles of the constitution are concerned with child labour:

Article 21a - right to education for children aged between 6 and 14 years,

Article 24 - prohibition of employment of children in factories,

Article 39 - directs the state governments to form policies such that 'children are not abused and are not forced by economic necessities to enter avocations unsuited to age and strength'.

India has enforced a semi ban on child labour prohibiting child labour in hazardous occupations. Child labour prohibition and regulation Act, 1986, prohibits children from working in 13 occupations and 57 processes. It defines any person under the age

of 14 as a child. The act was amended and made effective since October 2006, to include two more occupations, viz. employment as domestic workers or servants and employment in eateries, hotels and recreational facilities. This inclusion would directly affect 255,000 children. However, trade sector (gross and retailing) that employs nearly 10% of child labour was not included in the ban. Inclusion of this occupation would benefit child labourers in the urban areas. However, there is a negative repercussion, as the law might tend to be ineffective and make the children worse-off if implemented, depriving the family of income as there are no provisions for incentives for the children or for the family for the loss of income through child labour.

The National Policy on Child Labour, 1987 recommended project based plan of action targeting areas with high concentration of child labour. As a result, the National Child Labour Project (NCLP) was planned in 1987 and became functional in 1988. The project, financed by the central ministry of labour, aims at rehabilitating the children withdrawn from employment thereby reducing the incidence of child labour in the areas known for high incidence of child labour. Apart from awareness generation and legal action, the project also operates special schools for erstwhile child labourers. Its students are provided with a monthly stipend. The project has covered about 0.4 million children of whom about 0.3 million have been mainstreamed into schools. The project currently operates 250 districts with high incidence of child labour across the country.

India was the first country to join the International Programme of Elimination of Child labour (IPEC), a global programme operated by ILO since the year 1992 and its operation in India was extended from time to time and was recently extended until Dec 2006. During the period 1992-2002, IPEC supported over 165 projects in India. The programme also operates state based projects, identifying child labour prone districts in the state. The programme works in tandem with NCLP. Under ILO- IPEC project, central ministry for labour and the US department of labour developed a project, INDUS, aimed at rehabilitating children working in 10 hazardous sectors. The project will directly benefit 80,000 child labourers and it plans to support 10,000 families of former child labourers

Table 1.4 presents the economic characteristics of select Indian states. There are currently 28 states and 7 union territories in India. In this study, no distinction is made between states and union territories. The state governments and the central

government share the responsibility of fighting child labour. Characteristics of states with high incidence of child labour are presented in the table 1.4 along with the state of Kerala. This state was intentionally selected as it has a high literacy rate and nearly no child labour. Human Development Index (HDI) ranks, calculated with per capita consumer expenditure and literacy rate, show Kerala in the forefront.

Table 1.4 States with Highest Occurrence of Child Labour and their Characteristics

State	Child labour (as % of workers)[1]	HDI rank[2]	Per capita state NDP 1999-2000 in current prices[3]	Adult unemployment as % of labour force (1999-2000)[2]	Population below the poverty line(1999-2000) [2] %
Andhra Pradesh	7.7	23	14715	1.4	15.77
Bihar	4.8	30	6328	2.4	42.60
Karnataka	9.1	21	16343	1.4	20.04
Madhya Pradesh	7.1	32	10907	1.1	37.43
Maharashtra	8.4	16	23398	2.9	25.02
Uttar Pradesh	7.6	31	9765	1.4	31.15
West Bengal	4.5	19	15569	4.0	27.02
Kerala	***0.47***	***1***	***21046***	***8.6***	***12.72***
Indian Average	**5**	**-**	**-**	**2.3**	**26.10**

Sources: 1. Census of India, 2001, 2.National Human Development Report, 2001, 3. Government of India (2002).

The selected north Indian states of Bihar, Madhya Pradesh and Uttar Pradesh together with another state Rajasthan were often called as BIMARU (*Bimaar* in Hindi means sick), because of their backwardness. These states are listed as the most backward in the HDI rankings. Though per capita state NDP has certain ambiguities when measuring an individual's well being, because of regional disparities present in the state, it serves well to gauge the state's economic welfare in comparison to other states. The state of Maharashtra, with huge presence of manufacturing industries has very high per capita NDP, but also has high incidence of child labour, pointing out the disparities in the distribution of growth. Similarly, Andhra Pradesh and Karnataka

have recently experienced growth in the information technology sector and Business Process Outsourcing, but the economic growth is limited to certain pockets.

Adult unemployment is also included as cause for child labour in several studies. However, as the table shows the state of Kerala has the highest level of unemployment in the selected states, higher than Indian average, but also has the lowest incidence of child labour. The negative effect of adult unemployment over child education is the resultant of a high rate of literacy prevailing in this state. Even though, the unemployment rates appear very less in certain states, a vast section of the population lives under the poverty line. Nearly 70% of the labour force is employed in agricultural and therefore the employment is seasonal. Population living below the poverty line is very high in Bihar, Madhya Pradesh and Uttar Pradesh. Andhra Pradesh has lesser population below the poverty line, only a little higher than Kerala and even then, it has a very high incidence of child labour.

1.4 Causes and Consequences of Child Labour

Understanding the causes and consequences of child labour is crucial in formulating the policies to combat it. Though the subject has been under discussion for a very long time, it is still short of concrete formal analysis. They are often many factors working in combination that promotes and perpetuates child labour and therefore the issue can never be studied in isolation. One reason might be that child labour is a resultant of failures and issues confronting many spheres of the society, viz., economic, social, cultural and political. Figure 1.2 represents the factors affecting child labour. Of all, two factors can be pointed out as the major reasons: poverty and poor education policy. There is also a link between poverty and literacy rates as the literacy rate is shown to increase with increasing income levels. The NSS report on literacy and levels of education in India shows that in families with higher monthly per capita expenditure, literacy rates are also higher (NSS 2001).

Credit constraints of the parents also increase the incidence of child labour as shown by Ranjan (2001). The results show a positive relationship between inequality of credit distribution and incidence of child labour. As long as the cycle of poverty and child labour is not intervened through proper credit market reforms, the cycle perpetuates and the children of ex-child labourers end up as child labourers as well. Emerson and Souza (2003), showed such intergenerational persistence of child labour

in Brazil. They show a strong positive correlation between parents being ex-child labourers and their children being employed at an early age. However, when the parents' education increases, the probability of the children being employed had reduced.

Experience of developed countries shows that with economic growth child labour reduces and is subsequently eliminated. In the recent years, India has been experiencing a higher economic growth. Nevertheless, Child labour is found to be prevalent not only in poorer states but also in states with higher growth rates like Maharashtra and Tamilnadu. The prevalence and expansion of child labour in the period and regions of relatively high aggregate output indicates that the nature of economic growth is flawed (Swaminathan, 1998).

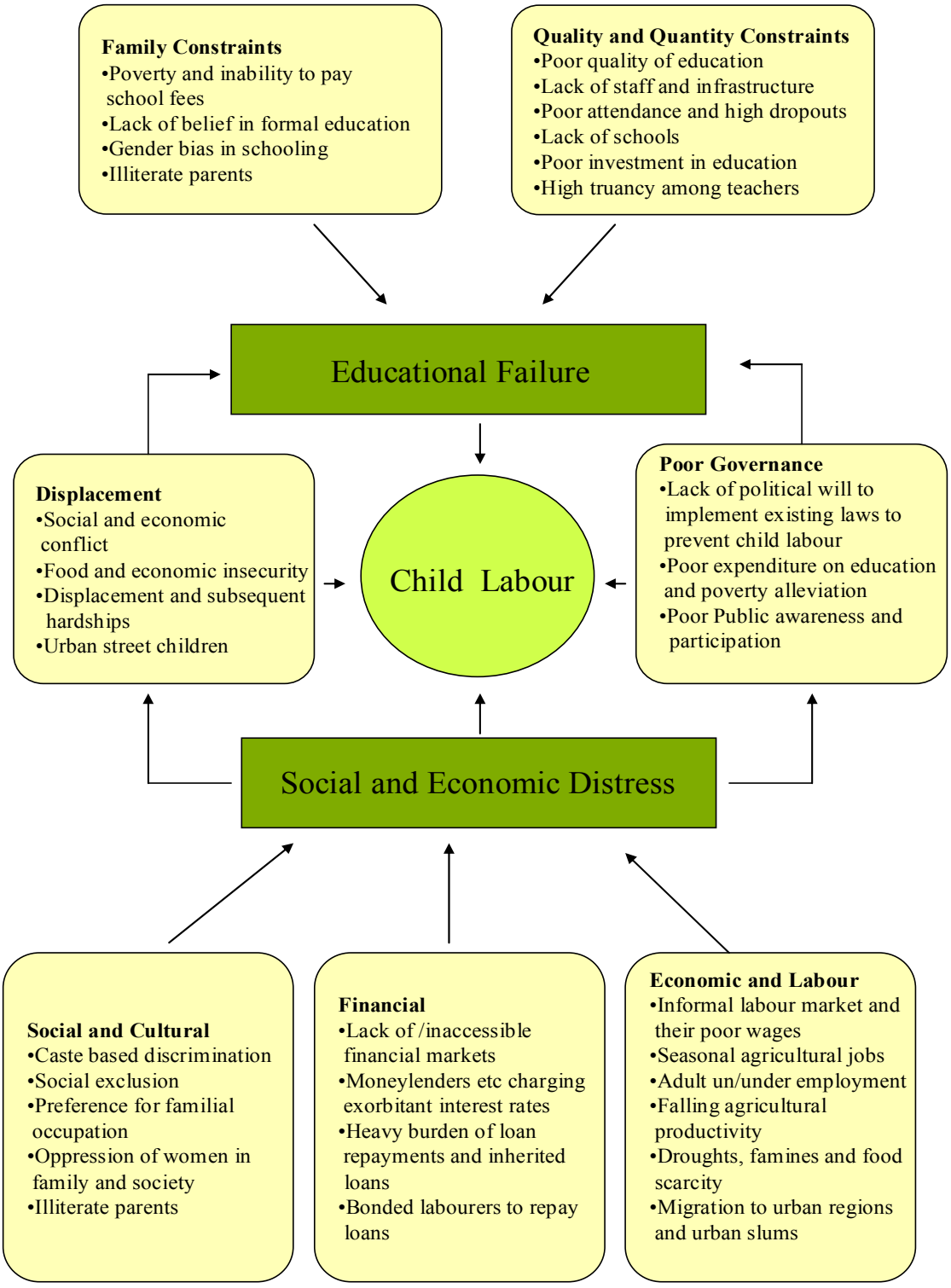

Figure 1.2 Factors influencing Child Labour

Source: Modified from Global March, 2006.

Similar results were obtained by Kambhampati and Rajan (2006) where they show that growth actually increases child labour rather than decreasing it. The determinants of child labour are studied separately in the third chapter.

The consequences of child labour are multifaceted, with the first effect being on the child itself. Being denied a proper childhood, the child's normal development is hampered, affecting its normal physical, mental and cognitive development. Child labourer's health deteriorates, as the working conditions are poor with poor light and ventilation, especially in informal industries in urban regions. As child labour eats into their schooling time, they are deprived of proper schooling and therefore their human capital accumulation cannot to be compared to that of proper school going children. Nevertheless, this trade-off between child labour and human capital accumulation is not straightforward. This depends on the nature of the child's work. Many studies reveal that child labour is combined with schoolwork, especially in agricultural work. As long as the work is not too demanding on the child's time and energy, schooling is not a problem, but it is when the child is too tired after work to attend school. In addition, suggestions that children learn practical skills at work do not hold as the children mostly do simple repetitive manual jobs.

Though the family is at economic gain because of child labour, in the long run the family stands to lose through poor health, increased fertility and lack of skills. Parents send their children to work when to ensure family's subsistence and working children contribute to their family income. The extent to which the working children contribute to their family income has been studied in various countries. Swaminathan (1998) found in her study in the Indian state of Gujarat, 40% of working children surveyed, contributed about 10 to 20% of their family income.

Child labour is promoted by the inequalities existing in the society and it in turn promotes such inequalities. Studies demonstrate that child labour promotes gender inequality (Ray, 2000) and caste inequality. Caste divisions are also reflected as class divisions and the divide is kept alive through child labour as the problem perpetuates through generations. Gender biases already exist in sending children to work and to work. Family decision on which child should be sent to work leans towards male siblings. In some families, boys are also given preference over girls for attending the school while the girl children are preferred for domestic help. Alaka Basu shows the relationship between working mother and a girl child as an inverted U shaped curve (from Basu, 1999). As the mothers start working, girl children are engaged to look

after the household. However, when the mother's salary started to increase, girl children are usually sent back to school.

Table 1.5 shows the existing gender biases among children in work and in school. The children were grouped into two based on their age, as 6-10 years old (primary school age) and 11-13 years old (middle or upper primary school age). In both the age groups, there are slightly higher numbers of male children employed than the girls.

Table 1.5 Distribution of Child Labour across Age Groups and Gender

Age group (years)	Child Labour [a]			Enrolment rates [b]	
	Male	Female	Total	Male	Female
6-10	10.74	8.85	19.58	52.48	47.52
11-13	49.30	31.11	80.42	54.68	45.32
Total	60.04	39.96	100.00	53.01	46.99

Source: a-calculated from NSS 55 Survey on employment and unemployment data, 1999-2000. b - Mehta (2006).

Consistently, the enrolment rates are higher for boys than girls in both the groups. The majority of child labourers are in the age group of 11-13 years and these children include dropouts from primary schools. Children from the younger age group are preferred to be sent to schools and if not possible then they are kept at home rather than sending them to work.

Child labour results in lack of technological innovations and creates more unskilled labourers reducing the nation's productivity and output. In an industry where child labour supply is abundant, there is disincentive for investment in innovation, thereby hampering technological growth in the industry. Similarly, introduction of labour saving technologies will reduce child labour. Diamond and Fayed (1998) note in Egypt with 1% increase in capital; the children's wage would reduce by 0.9%.

Child labour has a major impact on the adult labour market. Children are sometimes mentioned as essential in an industry since they perform tasks that adults cannot. The *nimble finger argument*[3] put forth by carpet industries has been disproved as the fine quality carpets are made by adults. Adults can perform all tasks done by children. Therefore, children are merely preferred for their lower wages. It is proven that

[3] Argument that nimble fingers of children are best suited to do intricate work.

children and women are substitutes in labour market (Diamond and Fayed, 1998), probably because they both lack physical stamina of male workers. In that case, children and women compete for jobs. Galli (2001), reviews studies about relation between adult labour market and child labour and concludes that child labour complements adult workers in rural regions and they compete with women for industrial jobs. Long-term consequences of child labour are negative for the family and the nation. Regardless of the short-term positive consequences child labour needs to be combated through a proper mix of policy measures.

The upcoming chapter studies the core labour standards and if they offer any competitive edge for exports. The third chapter is an empirical study on determinants of children out of school. The fourth chapter studies returns to education in various sectors of rural and urban India. Using the results of fourth chapter, the fifth chapter studies the cost benefit analysis of education in India. Sixth chapter is a case study on child labour in the carpet industry in India. Carpet industry was harbouring child labour for long and was brought under intense scrutiny by public, media and foreign governments. The chapter studies the progress made in this sector with regard to child labour. Seventh chapter summarises the results and draws policy conclusions.

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2 Core Labour Standards and the Performance of Labour Intensive Exports

2.1 Core Labour Standards and Trade

Linking labour standards with trade had always been an issue of contention between developed and developing nations. It has been constantly under discussion and figures in the foreign trade policies of countries. With the increase in trade of manufactured goods, this debate has gathered pace and is now a subject under focus and scrutiny. Although all nations agree on the importance and beneficial nature of core standards, they differ on how it could be achieved. Certain sections, including the developed countries, call for harmonising standards with the use trade measures against non-compliance, while others argue that overall development of the country will be the remedy against poor standards.

The proponents of universal standards put forward moral and economic arguments supporting harmonisation of labour standards. The economic argument is that the countries with poor standards gain unfair trade advantage and such exports amount to 'social dumping'. They fear the income distributional effects of such trade will promote a race to the bottom in their own unskilled labour wages. The second argument are the moral and altruistic concerns; that poor labour standards violates basic human rights and trade should be used as platform to implement these rights, wherever they are lacking. Proponents of universal standards call for using trade policy instruments to ensure that human rights are respected in the labour markets of developing countries. On the contrary, developing countries regard any attempt to include labour standards in international trade agreements as a veiled protectionist attempt. They argue that the calls for universalising the labour standards, which are

national policies, and attempts to regulate them amount to interfering with their national sovereignty.

Naturally, the labour standards are elaborately discussed in the context of trade agreements and Foreign Direct Investment (FDI). Many trade agreements also include a note on standards. North American Free Trade Agreement (NAFTA) does not include a social charter as such but has a collateral agreement that deals with the labour and environmental standards. The European Union (EU) has a social charter that deals with core labour standards as well as other labour standards. There are also concerns regarding poor labour standards attracting high FDI, which might trigger a race to the bottom in standards, bringing down the standards in the west. However, there is no convincing evidence to prove that countries with low standards attract high FDI (Dehejia and Samy, 2002). Export Processing Zones (EPZ) in developing countries are also particularly criticised by the west for keeping standards intentionally low inside EPZs to gain advantage (ICFTU, 1996).

2.1.1 History - Trade and Labour Standards

Attempts to define labour standards dates back to the industrial revolution in Europe. Labour standards in the context of trade have been under discussion since late 19th century. For a historical review of issue, refer Charnovitz (1987) and Engerman (2001). First official validation of labour standards appeared in the treaty of Versailles. In 1919, members of the League of Nations agreed that they 'will endeavour to secure and maintain fair and humane conditions of labour for men, women, and children, both in their own countries and in all countries to which their commercial and industrial relations extend, and for that purpose will establish and maintain the necessary international organisations' (Treaty of Versailles, 1919). The

treaty of Versailles also established the International Labour Organisation, which is the only international body that survived the Second World War. The aims and the purpose of the ILO were redefined in the Declaration of Philadelphia[4], in the year 1944, which mentions about the equality in employment, which is now considered as a core labour standard.

The Havana charter of the International Trade Organisation (ITO) framed in the year 1948, also mentions about the unfair competition because of poor labour standards in article 7 of chapter II (Charnovitz, 1987). However, the ITO failed to take off a full-fledged organisation. General Agreement on Tariffs and Trade (GATT) makes no mention of labour standards except for the article XX (e) (CIESIN GATT guide) that prohibits goods made with prison labour, which is considered forced labour in certain cases. USA attempted unsuccessfully to include labour standards in the Tokyo and Uruguay rounds of negotiations.

During the 1960s and 70s developing countries were wary of imports from developed countries and strongly pursued import substitution policies. Later there was reversal in the situation, when there was stagnation of wages and increasing income inequalities coupled with increase in exports of unskilled labour intensive manufacturing goods. The developed countries especially USA tried to take a protectionist stance fuelled by fears of fall in wages of their unskilled labourers as result of trade with countries with low standards. There were increased calls in the developed for inclusion of a social

[4] The principles adopted in the Declaration of Philadelphia are, 1. Labour is not a commodity, 2. Freedoms of expression and of association are essential to sustained progress, 3. Poverty anywhere constitutes a danger to prosperity everywhere, 4.All human beings, irrespective of race, creed, or sex, have the right to pursue both their material well-being and their spiritual development in conditions of freedom and dignity, of economic security, and of equal opportunity.

clause[5] in trade agreements. In the mid 1990s, OECD published a report on core labour standards and trade, which intensified further debates in the topic. The WTO ministerial meeting in Singapore reaffirmed its commitment to International Labour Standards (ILS, they are the core labour standards applied internationally) affirming that they belong to the competence of ILO, which should be supported by the member countries to promote them. The ministerial meeting included that the ILS should not be used for protectionist purposes and particularly not for denying comparative advantage of developing countries. The ILO Declaration on Fundamental Principles at Work named the CLS in the year 1998. The UN meet in Davos in early 1999 called for 'Global Compact'[6], which included the four core labour standards as its labour principles.

In the year 2000, the follow-up of the 1998 ILO declaration became operational. All members regardless of whether they have ratified or not have to submit a report on how they have promoted the principles of the declaration in their countries. The ILO regularly monitors and reviews the member countries in issues ratified by them. Doha declaration of the WTO made in the year 2001 reaffirms the member countries stance on labour standards declared at the Singapore ministerial round.

The most recent development in the subject of labour standards and trade is the bipartisan agreement on trade policy in the US congress. Future trade deals with USA will require signatory countries to "adopt, maintain and enforce" the fundamental standards of the International Labour Organisation (Economist, 2007)

[5] Sanctions on trade in response to violations in labour standards are referred to as social clause

[6] Global Compact is an international voluntary initiative that brings together business corporations, international labour and civil society agencies with UN agencies, and together they promote responsible corporate citizenship, so that business can be a part of solution to challenges put forth by Globalisation. It became operational in 2000.

2.2 Theoretical Discourses on Labour Standards and Trade

2.2.1 Arguments calling for Labour Standards through Trade Measures

Ethical and economic reasons are being cited defending the calls for common labour standards. The most prevalent political argument put forth is that trade with countries with poor labour standards will bring down the wages of the unskilled labourers in developed countries. To avoid it, it is preferred that the labour standards be improved in countries wherever they are lacking. Such calls mean that better labour standards are global public goods that are absolute across nations. Proponents of this argument encourage the use of trade policy instruments to punish/correct the countries that fail to improve their standards.

The important economic argument is that the existence of huge north south divide is the result that globalisation process has not followed all the rules that theory puts forth. It is argued that implementing higher standards would correct the distortions prevalent in the labour market resulting in better allocation of resources and higher income. The prevalence of poor labour standards are regarded as a labour market imperfection and it is suggested that the government interference will improve them (Palley, 2004). There are two arguments that how implementation of standards through trade will work.

- The conventional static argument that the implementation would correct the market distortions and result is better allocation of resources. This in turn results in higher output and welfare.
- Dynamic argument that the improved standards change the pattern of incentives facing the industries and the government; eventually taking them to higher path of growth, where the wages are higher and the focus is on productivity. The pattern resembles the famous prisoners' dilemma, where the players lack cooperation and end up in sub optimal equilibrium. However, with cooperation they are shifted to higher equilibrium (Palley, 2004).

Similarly, it is argued, uniform standards across countries will be beneficial for both developed and developing countries.

The other argument is the moral argument condemning the prevalence of poor standards in many parts of the world and calls for common higher standards. Not all arguments for promotion of core labour standards can be viewed as protectionist. There might be real altruistic concerns especially about child labour in developing countries. Such concerns are high in high-income countries, reinforcing the claims that higher labour standards are *'Normal Goods'*, whose demand increase with increasing income. Improving standards in developing countries will improve the utility of certain sections of consumers in developed countries.

2.2.2 Arguments against Implementation of Labour Standards through Trade

There are two issues raised against the calls for uniform labour standards, the first being the question whether standards are absolute and second being the opposition to the use of trade measures to improve the standards. According to this argument standards, though are certainly universal in nature are not essentially absolute. Even though the labour standards are accepted as goals, there are hesitations to accept them, as rights.

There are also questions and objections regarding the language used in defining the standards. For example, there is difference of opinion in 'what is the minimum age for work?', 'when does child work becomes child labour?' and 'what amounts to discrimination in workplace' etc. This again varies between countries depending on their cultural and social factors.

The level of labour standards in a country depends on its factor endowments, level of social and economic development and its cultural norms. Diversity in terms of factor

endowments, tastes, technology is the basis for trade based on comparative advantage. It is therefore argued that the prevalence of diverse standards across nations is also a case for free trade. Use of trade measures like import ban of goods involving poor standards is certainly not the solution to improve standards but on the contrary the ban can worsen the labour standard. For example, an import ban on goods produced with child labour is not the right method of fighting the problem of child labour, as it makes working children and their parents worse off by pushing them into informal sector or even into other less desirable activities.

Bhagwati (1994) analyses the old and new challenges that confront trade. He treats the demands for harmonisation of labour and environmental standards and domestic institutions as a pre-requisite for trade and fear of income distributional effects of trade with countries marked by poor standards, as a new challenge. He points out that the factor price equalisation theorem is being brought out in support for harmonisation demands and explains that factor price equalisation has too demanding assumptions and that it might not suit the reality. He offers three reasons why the real wages of the developed and developing countries will not converge, they are, 1) scale economies, 2) diversification, and 3) trade and competition.

Maskus (1997) in a study analysing the link between CLS and trade, he found that deficient standards in export sectors actually reduced the export performance. The author also demonstrates that the use of trade measures in implementing the labour standards across nations will only be counter-productive as such measures reduce global efficiency for a small gain. Alternative measures like policies aimed at reducing poverty and improving education will be useful. He finds the theoretical and empirical claims that weak labour standards will generate spill over of wages in developed countries as unfounded. In addition, imposition of dumping tariffs would

be complicated as it would be difficult to calculate and it would be subject to political capture. He therefore concludes that the use of trade sanctions to improve labour standards is inadvisable and measures can only aggravate the severity of poor standards.

Brown (2001) does a comprehensive analysis on labour standards: their place in the international arena, instruments that may be used for establishing them. The paper points out that the income inequality existing in USA is a result of skill-biased technological change and arguments to link that with trade with countries with poor standards and unskilled wages in developed countries is very weak. Harmonising the standards is unlikely to improve the distribution of income in developed nations. She examines the role of labour standards in trade agenda and concludes that though heterogeneous standards are a policy concern, single set of standards would not be an appropriate policy response.

Child labour, a core labour standard, is proven prevalent only in countries and in families with low income. There is evidence that with the increase in income, the extent of child labour decreases (Krueger, 1997). The relation between low income and child labour can be broken by efficient capital markets. Lack of or cost of capital is a factor that worsens the issue of child labour (Baland and Robinson, 2000). Hence, the prevalence of child labour is a dependent on social and economic reasons and is not motivated at comparative advantage.

Use of trade measures to implement higher labour standards is not a valid argument since the worst cases of labour standard deprivation is found in the informal sectors (that are not directly participating in international trade) of the developing countries. In addition, the trade measures might shift the industry to a different state or country with poor standards. For example, when Pakistan agreed not to employ child labour in

soccer ball industry, the production moved to India (Berik, 2001, from Palley, 2004). Trades measures, without adequate policies to correct other failures of the state will be welfare reducing and might push labourers into a miserable situation of either joblessness or informal sectors with no regard for labour standards. In addition, they forward poor standards to a different country.

Available literature suggests that the nations demanding for higher labour standards in the east should resort to other ways of improving standards instead of trade measures. They should transfer income to poor households. This will reduce child labour and on the other hand, trade measures would make the families poorer and will push them into worse sectors of employment. They could also reduce the barriers on migration of workers from east. Admitting more immigrants in western nations would also improve their living conditions to western standards (Srinivasan, 1998). They could also subsidise the employers to improve working conditions and to employ adults instead of children.

Despite the moral and economic arguments made by the proponents of International Standards, universal labour standards does not have rationale, given the different stages of economic developments the developing countries are in. Workers in developed countries might be made worst off due to strict regulations in the labour market that result due to trade pressures. Non-trade measures will be effective; for example improving the quantity and quality of educational facilities, strengthening the civil institutions, etc.

What lies in the heart of this debate is whether poor labour standards offer comparative advantage. It is undisputed that many developing countries have poor labour standards that many times violate basic rights. However, by exploiting labourers do they achieve any unfair trade advantage needs to be studied. Despite the

vigorous debates, concrete empirical evidence regarding the effects of poor standards on comparative advantage is elusive.

Brown *et al* (1996) studied the partial and general equilibrium effects of implementation of labour standards. They model the better standard as a policy that aims to correct an externality that imposes a cost on the society and its imposition will be an additional cost on the domestic firms. In the partial equilibrium analysis, if the countries are small and if the social cost of externality is borne by the country where the firm is located, then the domestic policies that internalise the externality is welfare improving for the world and for the country. Since standards increase the world prices, net exporters will press for higher standards and net importers will prefer lower standards. Producers will prefer higher standards abroad as it increases the world prices. When the country is large enough to influence world prices, the incentives for distorting standards for terms of trade purposes is related to their own standard setting as well. For example, net exporters will prefer higher than optimum standards to get the benefit of higher world prices and improved terms of trade.

How standards alter welfare in large countries is also studied by Brown *et al* (1996) using general equilibrium analysis by studying how standards affect the country's trade and terms of trade. Assuming that the imposed standard uses resources that otherwise would be used in production process, imposition of standard in a specialised economy producing a single good (X) and importing another (Y), will reduce its production (of X), consumption (of X and Y) and trade (export of X and import of Y). Thus, the country loses its welfare in terms of consumption. Since standard has another purpose, it could be set optimally so that the benefit of higher standards offsets the loss in consumption.

The model is extended, similar to Heckscher-Ohlin model, with both the countries producing and exporting both the commodities using two factors of production. Imposition of the standards will use the factors that otherwise be used in production. How the standard will affect the output and trade will depend upon the factor intensity of the standard. The study found out that if a standard used higher ratio of labour to capital than is available in the world market then it will withdraw from the traded goods production (in either country where the standard is implemented) amounts of factor that will reduce the country's output of labour intensive good relative to the consumption of the good. In addition, it will increase the world relative price of the labour intensive good. Thus, only a completely neutral standard will use factors in the same proportion as endowments. If standards are harmonised then the labour abundant country will over provide the labour intensive standard as it improves its terms of trade benefits. In the same note, capital abundant country will under provide a labour intensive standard. If imposing a standard increases the production cost of the industry, similar to the previous model here also the standard favours one country to other regardless of who implemented it. They conclude that diversity in working conditions is a norm and it is inappropriate to brand such trade that follows differences in labour standards as 'unfair' as along as the standards are consistent with efficient resource use.

2.3 Studies on Labour Standards and Trade Performance

A study by OECD (1996) found no relation between labour standards and trade, FDI, economic development and employment. It studied the ratification status of conventions related to labour standards and trade performance and found that they were unrelated. Mah (1997) performed a similar study with a different set explanatory

variables, importantly real interest rate was used to represent cost of capital. The study analysed 45 non-OECD members' export share in GDP and the ratification of conventions regarding core labour standards and found that ratifying the conventions regarding non-discrimination and freedom of association reduced the export performance.

Busse (2002) analysed the role of core labour standards on the export of labour intensive goods and studied if they provide any comparative advantage. He studied export of goods that are low in technology and labour intensive. The results showed that weak union rights provided a comparative advantage for unskilled labour intensive goods. Discrimination of women in employment reduced the comparative advantage by reducing the supply of workers. But lower standards in child labour and forced labour increased the labour supply and thereby improved comparative advantage

Hasnat (2002) studied the export share of GDP as a function of productivity, wages, investment, human capital, labour standards, and tested it on 58 non-OECD countries. The results showed that only the right to organise and collective bargaining (union rights) had a significant influence on the export performance. Ignoring this right, CLS do not have a significant influence on the trade performance.

2.4 Materials and Methods

Here in this study, competitiveness of the export of labour intensive goods is studied as its ratio to the nation's GDP. The semi-log regression equation used in the analysis is, $ln\ (labour\ intensive\ exports/GDP) = a + b_1\ (child\ labour) + b_2\ (discrimination) + b_3\ (union\ rights) + b_4\ (forced\ labour) + c\ (labour\ density) + d\ (openness) + e\ (investment) + f\ (literacy\ rate) + g\ (manufacturing\ wage) + h\ (gini\ ratio) + error.$

Manufactured labour-intensive goods were selected based on the study by Kucera and Sarna (2004). Data includes six, 2- digit goods, 23, 3-digit goods, 16, 4-digit goods (UN, 2004). The definition of child labour varies greatly across countries; therefore, child labour statistics are not suitable for analysis. Instead, the number of children out of school in the age group of 5-14 years (UNESCO, 2005) is used as a proxy for child labour. Not all children out of school are child labourers; however, it is a more suitable proxy for the purpose of our analysis.

The extent of discrimination in each country is captured by the share of female labourers in the labour force. The index on forced labour developed by Busse and Braun (2002) was used to capture the prevalence of forced labour in the country. The index ranges from 0-5 with zero being the best case and five, when all forms of forced labour existed in the country. The union rights index weighted for severity (Kucera and Sarna, 2004) was used to represent the strength of labour unions in selected countries. This index ranges from zero to 10 with zero being the worst case. The labour endowment was calculated as of labour to land ratio (World Bank, 2005). Trade openness is calculated as a ratio of trade to GDP. The effect of investment is captured by the gross capital formation (GCF) as a percentage of GDP (World Bank, 2005) Literacy rates were used to study its relation to unskilled labour intensive exports (UNDP, 2005). Expected labour wages for non-market economies were obtained from the U.S Import Administration. For other countries, labour wages were was calculated using wage data from ILO and exchange rates from the CIA Fact Book. The Gini index was obtained from the World Bank (2005). GDP per capita in US$ PPP was obtained from UNDP (2005).

Grouping the countries based on their performance in core labour standards using cluster analysis revealed a statistically insignificant results and therefore a GDP based

classification was employed. The selected nations were studied as three groups; the first group included all nations; the second group included low and middle-income nations; the third group included the developing countries. Nations with GDP per capita (USD PPP) lower than 6104 were grouped as low and middle-income nations and if lower than 4359, they were grouped as developing nations. The data on the GDP levels for low and middle-income countries and developing countries were obtained from Human Development Report 2005, for the year 2002.

Ratification - the number of conventions ratified is included in many studies as an explanatory variable but here in the analysis it is not included. Non-ratification does not mean that the country does not have an equivalent national legislation. Many countries do not ratify the conventions because of the inflexibility of the conventions that does not allow even minor relevant legitimate variations in the national policies (Mc McCullough *et al,* 2006). Sometimes the number of conventions ratified does not reflect the reality. For example the United States has ratified just two of the eight conventions and so has Myanmar, but in reality, the labour rights vary between these countries. The situation of labour standards is a complex issue to capture in simple index numbers.

2.5 Results and Discussion

A correlation study was conducted between per capita GDP (PPP) and the core labour standards. The results are presented in table 2.1. It shows that there exists a strong negative correlation between GDP per capita and children out of school (proxy for child labour). As per capita GDP increases, it would bring down the number of child labour and conversely or send more children to school. This result is consistent with the previous study performed by Krueger (1997) which suggests that child labour is

completely withdrawn from the labour force after the per capita GDP reached 5000$. Per capita GDP is significantly related to union rights and forced labour indices. It is positively related with union rights index. As the per capita GDP increases, union rights index increases (or the union rights get better). All countries with high per capita income have better union rights. In addition, as per capita GDP increases, the forced labour index decreases (or extent of forced labour decreases). Thus, increase in the income level brings positive changes in labour market conditions.

Table 2.1 Correlation between per capita GDP and Core Labour Standards

		Per capita GDP PPP	Proxy for child labour	Women as % of labour force	Union Rights Index	Forced Labour Index
Per capita GDP (PPP)	Pearson Correlation	1	-0.496**	0.145	0.551**	-0.357**
	Sig. (2-tailed)		.000	0.168	0.000	0.000
	N	93	88	92	87	92
Proxy for Child Labour	Pearson Correlation	-0.496**	1	0.060	-0.126	0.180
	Sig. (2-tailed)	0.000		0.583	0.258	0.093
	N	88	88	87	83	88
Women as % of labour force	Pearson Correlation	0.145	0.060	1	0.300**	-0.345**
	Sig. (2-tailed)	0.168	0.583		0.005	0.001
	N	92	87	92	87	91
Union Rights Index	Pearson Correlation	0.551**	-0.126	0.300**	1	-0.41**[a]
	Sig. (2-tailed)	0.000	0.258	0.005		0.000
	N	87	83	87	87	87
Forced Labour Index	Pearson Correlation	-0.357**	0.180	-0.345**	-0.41**[a]	1
	Sig. (2-tailed)	0.000	0.093	0.001	0.000	
	N	92	88	91	87	92

***-Correlation is significant at the 0.01 level (2-tailed).a-Spearman's Rho coefficient.*

These results also indicate that labour standards are related within themselves, except child labour, which is not related to other labour standards. Women as percent of the labour force are related positively to union rights index, as improving union rights also leads to improvement of women's participation in the labour force. Its negative relation with the forced labour index means that with the reduction of forced labour, women's participation in the labour force will increase. Union rights are negatively related to forced labour index, with improvement in union rights, the extent of forced labour would decrease. Union rights seem to be a powerful standard, improving which would have a positive impact on other standards.

The linear regression results for the all selected nations is presented in table 2.2. As the labour standards are related among themselves, the regression analysis is done separately for each of them. As the equation is semi log in nature, the resultant coefficients are adjusted by exp $^{(coefficient)}$-1 before interpreting them.

Table 2.2 Regression Results for All Selected Nations

	1	2	3	4
	b	b	b	b
(Constant)	0.6388 (0.308)	-0.355 (-0.216)	-0.786 (-0.983)	-0.978** (-2.59)
Trade Openness	0.0172** (3.581)	0.0146** (2.747)	0.0149** (2.668)	0.0181** (3.45)
GCF as % of GDP	-0.041 (-1.641)	-0.061** (-2.172)	-0.057** (-2.012)	-0.055** (-2.11)
Manufacturing Wages	-0.105** (-3.109)	-0.108** (-2.877)	-0.095** (-2.333)	-0.0798** (-2.164)
Adult literacy rates	-0.0193 (-1.444)	0.0119 (0.954)	0.0107 (0.843)	0.0211* (1.712)
Gini Index	-0.0437** (-2.783)	-0.049** (-2.505)	-0.047** -(2.308)	-0.0353** (-2.139)
Labour Density	-0.0006 (-1.058)	-0.0003 (-0.446)	-0.0003 (-0.408)	-0.0006 (-0.992)
Proxy for Child Labour	-0.05** (-2.535)	-		
Women as % of Labour Force	-	-0.0329 (-1.079)		
Union Rights Index	-	-	-0.0621 (-0.852)	
Forced Labour Index	-	-		1.4147** (2.941)
Adj. R^2	0.300	0.212	0.192	0.288
F value Significance in brackets	5.412 (0.000)	3.922 (0.001)	3.485 (0.003)	5.392 (0.000)
Sample Size	87	87	87	87

** Correlation is significant at the 0.05 level; ** Correlation is significant at the 0.01 level*

For the group 'all nations', the common variable, trade openness, GCF, literacy rates, Gini index and manufacturing wages are mostly significant for the four regression equations. Trade openness is positive in all the cases indicating that the more open the country is, higher its exports.

As we have chosen only, labour intensive exports, the capital investment has a negative relationship with export performance of selected goods. Higher investment would bring down the labour intensive exports, as higher capital would mean better technology.

Increasing the manufacturing wages also brings down the exports of labour intensive goods. Literacy rate is positively significant only in the last equation involving forced labour index. As more and more people are educated, export share of labour intensive goods to GDP also increases. The negative relation between dependent variable and Gini index suggests that as inequality increases, the export share to GDP falls down.

Among core labour standards, only the proxy for child labour and the forced labour index were significant, both at 1% level. The participation of women in labour force (used to capture the effect of discrimination in labour market) and union rights have no influence on labour intensive export share to GDP. Higher incidence of child labour decreases the export share to GDP. Higher the forced labour index (or higher incidence of forced labour), higher is the labour intensive export share to GDP. The results are mixed, child labour provides no competitive edge for the labour intensive exports, instead diminishes it. On the other hand, prevalence forced labour does provide an advantage.

However, these results are for all nations including developed nations. The explanatory power of the variables increased when the developed countries were removed from the list and only middle-income and low-income countries were included. In table 2.3 regression results for middle and low-income countries with per capita GDP less than 6104 US$ (PPP) are presented. Trade openness has positive impact of export share in GDP. However, unlike the previous group, here GCF has no significant impact on the export share in GDP. Literacy rates and wages are

significant only in the first equation with child labour and both are negatively related to dependent variable. Increasing the literacy rates and the manufacturing wages would bring down the export share of labour intensive goods to GDP. Gini index is negatively significant for equations with union rights and forced labour indices. Increasing inequality will bring down the export share to GDP.

Table 2.3 Regression Results for Low and Middle Income Nations

	1	2	3	4
	b	b	b	b
(Constant)	12.799 (0.18)	1.054 (0.355)	0.761 (0.345)	-0.982** (-2.615)
Trade Openness	0.0245** (0.018)	0.024** (2.148)	0.024** (2.176)	0.022** (2.19)
GCF as % of GDP	-0.0091 (0.736)	-0.014 (-0.466)	-0.012 (-0.444)	-0.027 (-0.934)
Manufacturing Wages	-0.6368** (0.023)	-0.477 (-1.446)	-0.476 (-1.63)	0.321 (0.632)
Adult literacy rates	-0.0462** (0.012)	-0.0008 (-0.066)	-0.006 (-0.442)	0.008 (0.624)
Gini Index	-0.0383 (0.105)	-0.045 (-1.7)	-0.068** (-2.788)	-0.043* (-1.798)
Labour Density	-0.002 (0.496)	0.004 (1.576)	0.001 (0.359)	0.002 (0.881)
Proxy for Child Labour	-0.0770** (0.001)			
Women as % of Labour Force	-	-0.076** (-2.511)		
Union Rights Index	-		-0.283** (-3.774)	
Forced Labour Index	-			1.589** (3.226)
Adj. R^2	0.493	0.308	0.473	0.408
F value Significance within brackets	4.468 (0.005)	2.587 (0.045)	3.955 (0.011)	3.457 (0.016)
Sample Size	26	26	26	26

** - Correlation is significant at the 0.05 level; ** - Correlation is significant at the 0.01 level.*

Unlike the group 'all nations', results for middle and low income nations show that all the core labour standards are significantly related to export share in GDP. Incidence of child labour and women's participation in the labour force has a negative relation with dependent variable. Presence of child labour does not boost the export share to GPD. Higher presence of child labour also indicates poor literacy rates and therefore even low skill manufacturing industries cannot flourish in such countries and they tend to remain agrarian. However, discrimination of women does have a positive effect on competitiveness, as the results show that increasing participation of women decreases the competitiveness of labour intensive exports. This result reflects the real world situation where even in high income countries and countries with high manufacturing exports actually have lower share of women in the labour force compared to countries with lower manufacturing exports, which have higher share of women in the labour force. This result might be influenced by the fact even in developed countries there exist a lower share of women in labour force. Mah (1997) discusses a similar result where the author found that ratifying the convention regarding non-discrimination in work place eroded export performance in low-income countries. Improving the union rights would bring down the export share in GDP, indicating that strong unions do not promote export performance. Forced labour index has a positive relation indicating that increasing the incidence of forced labour in a country would increase the share of labour intensive exports to GDP. Forced labour would mean increase in labour supply without any substantial increase in wage costs, as forced labourers are usually underpaid, if paid at all. All the core labour standards were significant at 1% level.

The results are similar for the group 'developing nations', with per capita GDP less than 4359 US$ (PPP). For this group the explanatory power of the chosen variables

(adjusted R^2) is higher than the other two groups. Among the common variables for the four regression equations, trade openness is positively significant for all the four equations. Wages are negatively significant for the first equation involving child labour proxy. Gini index is negatively significant as before for the last two equations with union rights and forced labour indices.

Table 2.4 Regression Results for Developing Nations

	1	2	3	4
	b	b	b	b
(Constant)	4.84** (2.448)	4.155** (2.156)	1.512 (0.758)	-2.93 (-1.66)
Trade Openness	0.028** (2.413)	0.031** (2.567)	0.053** (2.356)	0.038** (3.008)
GCF as % of GDP	-0.058 (-1.774)	-0.09** (-2.692)	-0.022 (-0.499)	-0.078** (-2.35)
Manufacturing Wages	-0.587** (-2.181)	-0.426 (-1.442)	-0.565 (-1.657)	0.552 (1.094)
Adult literacy rates	-0.049** (-2.952)	-0.005 (-0.433)	-0.018 (-1.106)	-0.002 (-0.19)
Gini Index	-0.071** (-2.595)	-0.068** (-2.417)	-0.086** (-2.591)	-0.052** (-1.84)
Labour Density	-0.002 (-0.822)	0.004** (1.885)	0.0004 (0.166)	0.002 (0.718)
Proxy for Child Labour	-0.074** (-3.934)			
Women as % of Labour Force		-0.099** (-3.789)		
Union Rights Index			-0.329** (-2.931)	
Forced Labour Index				2.16** (3.859)
Adj. R^2	0.626	0.610	0.482	0.618
F value Significance within brackets	5.538 (0.005)	5.242 (0.006)	3.261 (0.045)	5.384 (0.006)
Sample Size	20	20	20	20

**- Correlation is significant at the 0.05 level; ** - Correlation is significant at the 0.01 level.*

The core labour standards have similar relationship to the dependent variable, as in the second group. Child labour does not provide any export advantage and is the only factor that negatively influences the share of labour intensive exports. The other three labour standards are significant at 1 % level and contribute positively to the exports share labour intensive goods to GDP.

2.6 Summary

The correlation study between the per capita income and the CLS suggest that the income increase will bring positive changes in labour market condition. The studies performed so far on the core labour standards and export performance has failed to provide any concrete results. Here in this study, the export of labour intensive manufactured goods as a share of the nation's GDP is used as the dependent variable. The results demonstrate that the variables representing discrimination, union rights and forced labour situation were positively influencing the export share. On the other hand, child labour negatively affects the export performance. The results were more pronounced when the countries were grouped into middle and low-income nations and developing nations based on their per capita GDP. Reducing and subsequently abolishing child labour will improve the country's exports performance. Child labour does not have any link with economic efficiency directly but affects the nation's output and trade through poor literacy rates and abundance of unskilled labourers.

These results should be interpreted cautiously as there are multitude of factors ranging from natural resource endowments to trade policies influencing exports, which could not be considered due to data limitations. Moreover, the choice of the explanatory variables was limited due to data unavailability for many nations. These results do not mean that labour standards should be improved through trade measures. In addition,

they do not provide evidence that low standards in developing countries trigger a race to bottom in unskilled workers' wages in developed nations. The current level of economic development in a country, as seen in the correlation results with per capita GDP, influences the existing level of labour standards.

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2.8 Appendix

2.8.1 SITC.2 Codes of the Labour Intensive Goods selected for the Study

248, 61, 63, 65, 665, 666, 667, 691, 692, 693, 694, 695, 696, 697, 6991, 6992, 6993, 6994, 6996, 6998, 6999, 8121, 8122, 82, 83, 842, 843, 844, 845, 846, 847, 8481, 8482, 8483, 8484, 85, 8941, 8942, 8947, 895, 896, 897, 898, 899.

2.8.2 All Selected Nations

Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bangladesh, Belarus, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Croatia, Cyprus, Czech, Denmark, Ecuador, El Salvador, Estonia, Finland, France, Germany, Greece, Guatemala, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Jordan, Kazakhstan, Kenya, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malawi, Malaysia, Malta, Mauritius, Mexico, Morocco, Nepal, Netherlands, New Zealand, Nicaragua, Norway, Oman, Pakistan, Panama, Paraguay, Peru, Poland, Portugal, Rep. of Korea, Rep. of Moldova, Russian Federation, Senegal, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, TFYR of Macedonia, Turkey, United Kingdom, United Rep. of Tanzania, Uruguay, USA.

2.8.3 Selected Low and Middle Income Nations

(GDP per capita lesser than 6104 US$ PPP)

Albania, Armenia, Azerbaijan, Bangladesh, Belarus, Bolivia, China, Ecuador, El Salvador, Guatemala, India, Indonesia, Jordan, Kenya, Kyrgyzstan, Malawi, Morocco, Nepal, Nicaragua, Pakistan, Paraguay, Peru, Rep. of Moldova, Senegal, Sri Lanka, United Rep. of Tanzania.

2.8.4 Selected Developing Nations

(GDP per capita lesser than 4359 US$ PPP)

Armenia, Azerbaijan, Bangladesh, Bolivia, Ecuador, Guatemala, India, Indonesia, Jordan, Kenya, Kyrgyzstan, Malawi, Morocco, Nepal, Nicaragua, Pakistan, Rep. of Moldova, Senegal, Sri Lanka, United Rep. of Tanzania.

3 Determinants of Children Out of School

The determinants of child labour and educationally deprived children are one of the most extensively discussed topics in the issue of child labour and still being discussed by the public and the policy makers. The experiences of the developed countries need not hold for the developing countries as each country's case is unique, caused by their level of socio economic development together with the issues surrounding land, labour and financial markets etc. Of all the determinants studied, one stands out as frequently, studied both theoretically and empirically, Poverty. The idea of 'poverty trap' being the cause of child labour is long existent. Malthus argues that the prevalence of child labour in the 18th century is an evidence for families being unable to meet their basic needs (From Edmonds, 2007). This study analyses the effects of, select characteristics of the family and the state where the family resides, on the children out of school including child labour. From the wide array of available literature, select theoretical and empirical studies are presented below.

3.1 Previous Studies

Many studies prove that child labour is a deterrent to schooling. Amin *et al* (2006) studied the likelihood the child would remain at school using data from Bangladesh. The type of work the children do and their demographic characters influence the level at which their schooling is affected. They also compare the aftermaths of two types of policies implemented by the Bangladeshi Government against child labour. One was a direct ban that was not helpful as it did not promote schooling nor did it reduce child labour. The second project involved provision of monetary incentives for children attending schools. With provision of incentives, school attendance did improve and child labour numbers showed reduction.

Though in many countries, especially in rural areas, children combine work and schooling, it is proven that it is still undesirable for the normal growth of children. Ray and Lancaster (2005), in a cross-country analysis conclude that children's work, even in limited amount adversely affect the child's schooling by reducing their school attendance and performance.

Factors that decide whether children attend school or not, are primarily family characteristics. Parents, based on their preferences make decision on child's time. Household decision-making model assumes that households maximise utility, which is function of family size, schooling hours per child, leisure hours of parents and composite consumption good. These goods are purchased in the market by time spent by family members at work. The cross elasticities concerning child labour in this model are effects of increase in father's wage and increase in mother's wage, both of these wage increases have a negative impact on child labour. Increase in the child's wage has a positive relation with child labour by increasing the opportunity cost of schooling and returns to each birth and thereby increasing family size. Increase in family's assets also promotes education (Brown *et al*, 2002*)*.

Literacy not only influences a person's wage and their family income, it also decides their bargaining power in their family's decision making. When both the parents are well educated, a balance of power is created within the family, which reduces child work. Such balance is preferable compared to a situation where the power resides with one parent (Basu and Ray, 2001). Well-educated individuals may not be willing to share their literacy (personal capital) with other members of the family since it might erode their bargaining capacity in the family (Basu *et al*, 2001). For example the husband's literacy might not be shared with his wife since educated wife will reduce her husband's authority in the decision making process. Mother's stature is

decided by her literacy and when the mother is educated, literacy is passed on to the next generation, which is crucial in avoiding child labour and educating children.

Quality of the education system is also a very strong determinant of child labour. Mother's employment status has two contradicting relationship with her child's activity status. When the mother enters the labour market to supplement the family income, the girl child might be withdrawn from school to take care of the household and their younger siblings. When the mother's income increases to meet all the family's demands, the child is sent again to school (Basu, 1993).

Adult wages has a direct relationship with child labour. Altruistic parents would not send their children to work when their wages increases above the subsistence level. Basu and Van (1998) studied the relation between adult wages and the supply of child labour in a multiple equilibrium setup. This study had a significant influence on child labour studies. It is assumed that adults and children are substitutes. Once there is a ban on child labour, the demand for adult labour increases thereby increasing their wages. With increased adult wages, there is no necessity to send children to work and therefore the ban becomes obsolete. There are two equilibriums; one where child labour exists and is marked by low adult wages and another with higher adult wages and no child labour. If in reality multiple equilibria exists then a ban on child labour will be desirable, if there is single equilibrium existing then the ban will make the child labour and their families, worse off. Increase in adult wages as a result of elimination of child labour was noted by Chandrasekhar (1997) in fireworks industry in Tamil Nadu, India.

Baland and Robinson (2000) modelled the household decision whether to send children to work or to school. Studying why child labour exists in equilibrium, they suggest that child labour is inefficient when parents substitute it to negative bequests from children or as substitute for borrowing money, in case of financial market imperfections. They demonstrate that as it is Pareto inefficient, it is difficult to eradicate child labour. A ban on child labour might be Pareto improving but will have other externalities for example, as child labourers get educated as adults; it will bring down wages of educated workers.

Deb and Rosati (2004) studied effects of unobserved characteristics on child labour. Poorer households were least likely to send children to school and they had less educated parents compared with other classes. Observed characteristics, income, wealth, cost of and returns to education cause substitution in children's activities between attending school and being idle. They found child labour to be resistant to marginal changes in explanatory variables. Therefore, they conclude that focus in the fight against child labour should be more on household determinants other than income. Low explanatory power of income suggests that it is possible to fight child labour without relying solely on income growth. The authors suggest that children who stay at home warrant higher attention than the other two groups of children as they are the most vulnerable group and worse off than the working children in human capital sense.

Parents' literacy is a very important determinant of child labour and unfortunately, the adult literacy rates are very poor in many Indian states. Educating children will be a break in the child labour-poverty cycle and educated mother usually plays a significant role in eliminating gender bias in educating children. Literate parents, especially the mother, apart from influencing income and the family size, also

positively influence the human capital formation of the child. Being literate also has other positive social externalities, which are equally important. Role of parent's literacy is documented in Emerson and Souza (2003) and in Ray and Lancaster (2005).

As poverty trap is the primarily cited reason for child labour and not attending schools, subsidies provided to families to send their children to school should reduce child labour. Ravallion and Wodon (2000) studied whether providing subsidies would promote schooling. Subsidy targeted at promoting school enrolment is provided by the Bangladesh government in rural regions. Their theoretical model suggests that subsidy increases schooling while its effect on child labour is ambiguous. The empirical results show that increase in enrolment achieved is higher than decrease in child labour. Even then, it is a positive outcome given that the subsidy provided was less than mean child wages.

Gender of the child is a very important determinant in nations where girls are excluded in schooling and also in labour market for cultural reasons. Ray (2002) studied data from Nepal and Pakistan and compares the results between two countries. Gender bias favouring boys' schooling was found to exist in both the countries, with the bias being severe in Pakistan. The author also found trade off existing between child labour and schooling.

Tanaka (2003) studies relation between child labour and public education in political economy model. The results showed that in case of wide income inequality, majority households do not support public education and majority of children are sent to work. Hence, equitable redistribution of income becomes essential to mitigate child labour. When the distribution of income pushes the per capita income above the threshold level, then the provision of public education increases, increasing the school

attendance and reducing child labour. Jafarey and Lahiri (2005) check two policy options, food for education and investment in improving educational quality to eliminate child labour. With an imperfect credit supply, the results favoured the food subsidy. As it was increased, child labour decreased. However, when elasticity of credit supply improved investment in educational quality was found to be effective.

Globalisation is another opt cited determinant of child labour. Cigno and Rosati (2002) studied relation between globalisation and child labour, and they found no evidence that child labour increased with increased trade or economic integration.

3.1.1 Role of Economic Growth

As mentioned earlier low per capita income or poverty is one of the most cited determinants of child labour. Rampant child labour in Europe, during the peak of industrial revolution, slowly decreased with economic growth such occurrence is also expected in developing countries as their economies grow. Result from Edmonds (2003) show that child labour in Vietnam has experienced a decline as result of economic growth in their country. Between the years 1993-97 child labour in Vietnam declined by 30% and in the same period the economy grew by 9%. Comparing per capita expenditure and child labour in a panel data set the author found that improvement in per capita expenditure explained 80% of the decline in child labour. However, occurrence of such high growth in other countries could not be expected. There other studies on relationship between growth and child labour those prove other wise.

Swaminathan, M (1998) examines the features of child labour in Gujarat, a western Indian state with high growth rate. Despite high economic growth, child labour incidence was found be growing in Gujarat. Using a dataset from Bhavnagar in

Gujarat, the author analyses child labour in the region and the tasks children perform. The author points out that economic growth coupled with labour market deregulation has resulted in exploitation of working children. Therefore, just economic growth is not sufficient for the eradication of child labour. The income share of children in the household income is meagre and therefore the child labour does not help in reducing the family's poverty. The jobs children performed were found to impart no special skills. The results also point out that in spite of working in industries branded as non-hazardous, the nature of work that children performed there did affect their normal development.

Kambhampati and Rajan (2005) also found similar results in India. Using National Sample Survey data and state level macro data for 15 states in India, the authors studied whether child labour reduced with higher economic growth. On contrary to popular belief, economic growth has increased child labour rather than decreasing it especially in the case of girl children. Only when the growth is sustained can the child labour decrease.

As the above studies indicate, economic growth alone does not ensure eradication of child labour. History shows that child labour prevalent in developed nations during industrial revolution was eradicated towards the end of 19th century in course of development. However, when the economic growth is not uniformly distributed, with a section of population still being down trodden child labour cannot be expected to disappear.

Many theoretical and empirical studies focus on the determinants of child labour keeping only schooling as the only other alternative. However, classifying children as either 'in school' or 'at work' leaves behind a vast number of children staying at home. They are neither at school and nor at work for a variety of reasons. They take

part in domestic activities ranging from firewood collecting to taking care of younger siblings. According to a joint estimate by UNESCO and UNICEF there were 115 million children of primary school age out of school in 2001-02 (UNESCO, 2005) Out of school children include both working children and children at home.

The NSS data used in this study allows to classify the children of age above five years and less than 14 years (elementary school going age) in to three categories. The children were grouped based on their usual activity status (what they have been primarily doing in the 365 days preceding the date of survey). The details presented in table 3.1 shows that children could be classified into three groups as

1. Economically active children include children employed as casual labourers, wage employees and children employed in household enterprises. Even though their wages are not reported when they are employed in their own household enterprise, here they are grouped as economically active. In addition, children classified as seeking work are also included in this category.
2. Educationally active children are children attending schools.
3. Inactive children are those who are neither at school nor at work. This group includes children helping in household chores, disabled children and children classified as 'others'.

Here the study does not delve in the debate whether domestic work that children do is a burden that defies their age should also be treated as child labour. We assume that the domestic work they perform suits their age and light enough for children to do it. Both the groups, inactive and economically active children are educationally deprived children who are denied their basic rights to education.

This study aims to analyse the determinants that keep children away from school and how the determinants influence the decision to go to work instead of staying at home. This is achieved through two analyses,

1. Multinomial logistic analysis to study the factors that makes children stay away from school, either at work or at home. Children who attend schools form the base to which two groups of out of school children are compared.
2. Binary logistic analysis to study the factors that make children go to work instead of staying at home. Children who stay at home form the base to which working children are compared.

3.2 Methodology

The dependent variable of the study would be a dummy variable that describes whether the child remains at home or goes to work instead of attending school. The dependent variable will take values from zero to two, in the multinomial analysis (0 – at school, 1- at work, 2- at home). In the binary analysis, it will take the values 0 to 1 (0- at home, 1-at work). It studies the probability of these events happening. Since probability of the event happening takes values 0-1, linear regression cannot be used. Logistic regression is a type of generalised linear model that extends the linear regression by linking the real numbers to 0-1 range. It estimates the probability of certain event occurring. It calculates changes in the odd logs of dependent variable not changes in dependent variable like in linear regression.

The binomial regression is described first followed by the multinomial regression, as the latter is only an extension of the former. Binomial regression is used when the dependent variable is dichotomous.

$$Z_i = (\pi_i / 1 - \pi_i) = \alpha + \beta_1 x i_1 + \beta_2 x i_2 + \ldots + \beta_n x_{in}$$

Z –unobserved continuous variable, which can be describes as propensity towards the event of interest.

π_i – the probability of i^{th} case experiences the event of interest (here attending work)

α is the constant

β are the coefficient of the predictor variables.

X_{ij} – is the j^{th} predictor of the i^{th} case.

n- is the number of predictors.

When the dependent variable has more than two values than multinomial regression is used.

$\pi_{ik} = e^{z}_{ik} / (e^{z}_{i1} + e^{z}_{i2} + \ldots . e^{z}_{ik})$

π_{ik} is the probability the i^{th} case falls in category k. (Here in the analysis k takes values 0 to 2 or 0 and 1).

z_{ik} is the value of the k^{th} unobserved continuous variable for the i^{th} case.

$z_{ik} = \alpha + \beta_{k1} x_{i1} + \beta_{k2} x_{i2} + \ldots + \beta_{kj} x_{ij}$

x_{ij} – is the j^{th} predictor for the i^{th} case.

β_{kj} – is the j^{th} coefficient for the k^{th} unobserved variable.

Since Z is unobserved variable they are substituted from the above equation as,

$\pi_{ik} = e^{\alpha_{k0} + \beta_{k1} x_{i1} + \beta_{k2} x_{i2} + .. + \beta_{kj} x_{ij}} / (e^{\alpha_{10} + \beta_{11} x_{i1} + \beta_{12} x_{i2} + .. + \beta_{1j} x_{ij}} + e^{\alpha_{20} + \beta_{21} x_{i1} + \beta_{22} x_{i2} + \ldots + \beta_{2j} x_{ij}} + \ldots . e^{\alpha + \beta_{k1} x_{i1} + \beta_{k2} x_{i2} + \ldots + \beta_{kj} x_{ij}})$

3.3 Data and Variables

3.3.1 Data

Data from the 55th round National Sample Survey (NSS) on employment and unemployment for the years 1999-2000 is used for the study. National Sample Survey Organisation (NSSO) carries out surveys several subjects of socio-economic interest. Survey on employment and unemployment is conducted once in five years with the latest survey being in the year 2004-05. The survey collects information on labour force participation, wages, household expenditure and occupational distribution from individuals residing in all states in India. The fieldwork for the 55th round survey was conducted between July 1999 and June 2000.

The survey employed the two stage stratified sampling technique. In the first stage, urban and rural blocks and villages were selected circular systematically with probability proportional to their population. In the second stage, households were

selected circular systematically based on the occupation, land holding (in rural areas) and monthly per capita expenditure (in urban areas). Apart from the information on employment individual details like age, educational attainment, activity status (principal and subsidiary), special skills, land owned and cultivated and family details are available for all individuals surveyed. Wage and salary details are collected only for regular waged and salaried individuals. The actual number of persons surveyed is 509,779 in the rural region and 309,234 in the urban region (NSS, 2001).

Data on the individual states where the respondents live are collected from various sources. National Human Development Report, published by the government of India in the year 2001 was referred to collect data on human development ranking of the state, percent population below the poverty line, share of agriculture in state NDP and percentage of unemployed adult population.

3.3.2 Variables

To capture the regional (rural vs. urban), gender, caste and age group differences dummy variables for the same was included in the analysis. Family characteristics like size, income, maximum education (in years) of any adult male member and female member of the family are included. The data set provides details to identify a family unit but not the relationship between the members. The Indian family system is predominantly joint family and not nuclear family, therefore maximum education for adult male and female in the family could mean any adult, not just the children's parents. It could be their elder siblings or the aunt-uncles or grandparents education. To capture the impact of mother's and any other female's employment status, number of working females in the family is included. As said earlier this could be their mother or any other adult female member in the family. Child labour in India is

predominantly rural in occurrence and many children work in their family owned lands. To capture the influence of land cultivated by their family on their activity status, a dummy variable is used for land cultivated by the family (either own land or leased land).

To study the impact of labour market condition in their state of residence, the state's adult unemployment rate is used. To identify the effects of increase in families below poverty line of the state and it effect on children's activity status, population below poverty line was included. Human development index rank of the state was used to reflect the overall development of the state. Literacy rate were included in its calculation and therefore is a proxy for educational attainment of the state of residence. Dropout rate in elementary schools of the state was included to represent the educational quality of the state.

3.4 Summary Statistics

In India, there are 95 million children out of school as in 2004-05 (Government of India, 2005). Even among agencies and ministries in Indian Government, there exist differences in statistics regarding child labour. Indian census states that there were 59 million children out of school. NSS and census survey assume all enrolled children to be attending schools. Attendance rates and enrolment rates are different, making the data weaker. The data presented table 3.1 corresponds to children above the age of five and under the age of 14. Among the children of age group 6-13 years, 2.7 % of them are either economically active or seeking work. The survey data shows that, 80.7% of the child population in the age group of 6-13 years are attending or enrolled in schools. The data source does not distinguish between attendance and enrolment.

Table 3.1 Classification of Children based on their Usual Status

Usual Status	Usual status code in NSS data set	Frequency	Percent
Employed in household Enterprises	11,12,21	1835	1.6
Regular Salaried	31	294	.3
Casual labourers	41,51	915	.8
Sought work	81	54	.0
1.Economically active and available for work		**3098**	**2.7**
2.Educationally active	**91**	**91540**	**80.7**
Domestic duty only	92	1445	1.3
Domestic duty and related	93	854	.8
Renters, pension etc	94	10	.0
Disabled	95	146	.1
Beggars	96	8	.0
Others	97	16349	14.4
3.Inactive children		**18812**	**16.6**
Total (1+2+3)		**113450**	**100.0**

Source: NSS 55th round data.

Inactive children who are neither at school nor at work are 16.6%. Children involved in begging are included in the survey source as inactive. Though very meagre in number, these children should be grouped as economically active children. Disabled children are also inactive (0.1% of total children). It is a failure of the educational policy that not all schools are ready to accommodate disabled children. The category 'others' is not defined clearly. The children grouped here could be idle children. However, there could also be child workers in this category, as parents may not divulge exact details of their children's activity when they are working, as child labour is illegal in many occupations.

In table 3.2, regional, gender and age disparities prevalent among different groups of children are highlighted. Their distribution in the total sample is also presented for the sake of comparison. For children at school, the distribution across the selected

parameter is same as the total sample. It is clear that there are more working and inactive children in rural regions.

Table 3.2 Distribution of Children under Study by Region, Gender and Age

	Region		Gender		Age	
	Rural	**Urban**	**Male**	**Female**	**6-9 years**	**10-13 years**
In school	62.3	37.7	55	45	49.2	50.8
In labour Force	79.2	20.8	53.5	46.5	9.9	90.1
Inactive	78.1	21.9	41.9	58.1	57.0	43.0
All Children	65.4	34.6	52.8	47.2	49.4	50.6

Source: NSS 55th round data.

Data on gender shows that distribution of children in school and at work is similar to total sample. However, children who are inactive or those at home are predominantly girl children. This clearly shows the existing cultural preference, that elder girl children should take care of the domestic duties. When there is a choice of whom to send to work or to school the male child would be chosen for the same. While deciding who should stay at home, it is highly possible that girls would be preferred to stay at home.

Similarly, there is wide difference between age groups. Children from the upper age group are more in number (90.1%) in labour force and very less low age children are sent to work .Children of this age group remain at home not because they need to perform domestic duties but their parents are not willing to send them to work nor to school for whatever reasons.

Table 3.3 shows children from different activity classes according to their castes. The backward castes include the so-called untouchable castes. Other classes include all castes other than the most backward and forward castes. The caste significance is reflected in their activity statuses as well.

Table 3.3 Classification of Children based on their Caste

Activity Class	Backward Castes	Other Castes	Forward Castes	Total
In school	26.8	32.8	40.4	100
In labour force	40.6	35.4	24	100
Inactive	39.4	36.5	24.1	100

Source: NSS 55th round data.

Among children at school, most backward castes are lowest in number, followed by other castes, and the forward caste are highest in number in schools. Backward castes are high in number among those who work and among those, who stay at home and forward castes are low in these categories. Other castes are always between the extremes.

Details on select family characteristics for the three groups of children are presented in the table 3.4. The average family size does not vary significantly among groups. Surprisingly, families where child labour is present have lowest family size (6.41) than the other two groups. Families where inactive children are present have highest family size (6.99). It could be assumed that as the family size is higher, elder children are not sent to work or school to help in household. The highest years of education for adult men and women in the family are highest for the children in school (5.99 and 3.72 respectively). It proves that literacy in one generation certainly promotes it in the next generation as well. It is lowest for those families with inactive children. Parent's very poor education might be hindering them from getting information about the prospects for their children in labour market.

Table 3.4 Family Characteristics of Three Groups of Children

Group	Sample size	Average family size	Average highest education of adult male	Average highest education of adult female	Average per capita income (in Rs)	% families with (one or more) working women
In School	91540 (80.7%)	6.75	5.99	3.72	293.82	12.4
In labour Force	3098 (2.7%)	6.41	2.16	0.94	207.53 (182.7)[a]	22.8
Inactive	18812 (16.6%)	6.99	2.05	0.65	149.32	17.4

Source: NSS 55th round data; a–per capita family income free of child labour income.

Per capita monthly income of the groups shows that it is highest for families where children attend schools. It is lowest for families with inactive children. However, caution should be exercised while interpreting per capita income of child labour group, as their family income includes wages obtained by working children. Average wage of child labourers, calculated from the data set is, Rs. 159.13. The average family size of the group is 6.41. Contribution of the child labour wages in per capita family income is calculated to be Rs. 24.83. The per capita family income free from child labour income is Rs.182.7, still higher than the families with inactive children. Working women have different effects on their children's activity status in relation to the wages they receive as mentioned earlier. Calculated statistics show that only 12.4% of the households with children in school had working women, which is less in number compared to other groups. In households with child labour, 22.8% of them have one or more working women. It is common practise that parents take their children with them to work. Ray (1999) observes that increase in female wages

increases child labour, especially of girl children's. When female wages increase, girl children are pulled out of school and taken with mothers to work.

3.5 Results and Discussion

The multinomial logistic regression results are presented in the table 3.5. Here in the analysis, the factors that influence children to be inactive or to go to work instead of attending school are studied. The reference category is 'children in school'. The coefficients of logistic regression (b) obtained are in log odds. For the sake of simple interpretation odds ratio or odds (exp (b)) are used here. For example, with one unit change in family size, log of the ratio of probability (Probability of being in work/probability of being at school or log odds) will increase by 0.014. This could be simply explained as follows using odds ratio or odds; for one unit change in family size, the odds that children become child labour increases by 1.014 (exp $^{0.014}$). Odds that the children become inactive are even higher at 1.078. Thus, increasing family size will increase the number of working and inactive children.

Increasing one unit of adult male education decreases the risk of being child labour to 0.885 of the original level. Adult male education also has a similar effect on inactive status of children. One unit increase in adult female education decreases the odds of being child labour by 0.912. It is higher than effect of male education, but its effect on children being inactive is lower. So increasing both the male and female adult education has a negative effect on child labour and inactive children and it would increase schooling.

Table 3.5 Multinomial Regression Results

Variable	Working Children			Inactive Children		
	B	Std. Error	Exp(B)	B	Std. Error	Exp(B)
Intercept	-2.588	0.113		-2.532**	0.052	
Family size	0.014*	0.007	1.014	0.075**	0.003	1.078
Education of Adult Male	-0.122**	0.006	0.885	-0.122**	0.003	0.885
Education of Adult Female	-0.092**	0.008	0.912	-0.142**	0.004	0.868
HDI	-0.002	0.004	0.998	0.031**	0.002	1.032
Dropout Rate (%)	0.022**	0.002	1.023	0.005**	0.001	1.005
Unemployment rate (%)	-0.132**	0.017	0.877	-0.143**	0.008	0.867
Population below Poverty line (%)	-0.026**	0.002	0.974	0.024**	0.001	1.024
Total Family Income	0.000**	3.604	1.000	6.687	2.215	801.91
Number of working women	0.337**	0.043	1.401	0.087**	0.023	1.091
Gender (Male)	-0.110**	0.038	0.896	-0.613**	0.018	0.542
Sector (Rural)	0.352**	0.054	1.423	0.187**	0.024	1.206
Caste (forward caste)	-0.244**	0.040	0.784	-0.242**	0.019	0.785
Age Group (6-10 years)	-2.221**	0.061	0.109	0.270**	0.018	1.311
Non cultivators	-0.201**	0.045	0.818	0.240**	0.021	1.271
Pseudo R^2(Nagelkerke)	0.267					

*The reference category: Children in School;**- significant at 1% level, *- significant at 5%level.*

HDI rank of the state is insignificant for the group 'child labour'. Increase of HDI rank by one unit will increase the risk of being inactive by 1.032. Increase in HDI rank (or fall from a better rank to a lower rank) will increase the number of inactive children.

Increase in number of dropouts in the state will also increase the odds of being child labour and inactive by 1.023 and 1.005 respectively. Therefore improving the quality of education will reduce the incidence of child labour and inactive children through reduction in dropout rate.

Increase in unemployment rates would bring down the child labour and inactive children as it shows that it lowers the risk of being child labour and being inactive by 0.877 and 0.867 respectively. This result reflects the existing situation in certain Indian states, where states with very high unemployment rate also have very small child labour population, e.g., Kerala, the state with highest unemployment rate also has lowest child labour incidence in India. Existence of such cases has certainly influenced the results. Increase in the population below poverty line shows mixed results. It increases the odds of being inactive by 1.024 and decreases the odds of being a child labourer by 0.974. In other words, increase in population below poverty line will decrease the number of child labour but increases the number of inactive children. Increasing the number of working women in the family also increases the incidence of child labour and inactive children. As mentioned above the effects of working women on their children's activity status is found to be mixed. Increase in family income increases the odds of being a child labour by one (or it does not increase or decrease it). However, the standard error of the variable is very high, affecting the significance of the variable. It is in accordance with Deb and Rosati (2004) where the authors found that family characteristics other than income were more significantly influencing the family decision making on the child's time. Therefore, such variables should be targeted in the fight against child labour.

Being a male child decreases the odds of being a child labourer and being inactive by 0.896 and 0.542 respectively. Conversely, being a girl increases the odds of being a

child labourer by 1.116 and being inactive by 1.84 (1/0.896 and 1/0.542). The odds are rather high to be showing the disparity against women in education and at work. Living in rural regions also increases the odds of being a child labour by 1.423 (conversely living in urban areas decreases the odds by 0.707) and being inactive by 1.206 (conversely living in urban areas decreases the odds by 0.829). For a child from forward caste, odds of being a child labourer and inactive child are 0.784 and 0.785 respectively and their forward caste status decreases the odds of being out of school. Conversely, being belonging to a lower caste would increase the odds being a child labourer by 1.275 and bring inactive by 1.274.

Being a child of lower age group has a negative relation with child labour (decreases the odds by 0.109) and positive relation with inactive children (increases the odds by 1.311). Conversely, being a child from higher age group greatly increases the odds of being child labour by 9.17. Odds of being an inactive child decreases only by 0.763. If the family is not involved in farming, it reduces the prospects of being a child labourer where the odds decrease by 0.818. Conversely, being born in a farming family increases the prospects of being a child labourer (it increases the odds by 1.222). Being born in a non-farming family increases the odds of being inactive by 1.271 and if the child is born in a farming family, it is less likely to be inactive.

Table 3.6 present results of the binary logistic regression analysis performed using children at work as reference and comparing it with inactive children. It studies the effect of various explanatory variables that would pull children out of the labour force and make them inactive. Increase in the family size would not favour children to become inactive and they would remain as child labourers. One unit increase in the family size decreases the odds of being inactive by 0.927. The increase in adult male education has a positive effect but it is insignificant. Increasing the adult female will

pull the child from the labour market and make it inactive, as increasing adult female education by one year would increase the odds of becoming inactive by 1.049. Increase in family income increases the odds of being an inactive child by 1.000. Increase in the HDI rank (or fall in the human development status) will reduce the prospects of being inactive. It will increase child labour incidence in the state. It decreases the odds by 0.971. An increase in drop out rate of the state has a positive relation with being an inactive child; it will increase the odds of being inactive by 1.015. The relation between unemployment rate and child labour is clearer here as it shows, an increase in unemployment will reduce the number of inactive children and increase the number of working children. It increases the number of child labourers. An increase in population below poverty line has a similar relationship with number of working and inactive children. It would rather reduce the number of inactive children and increase the number of working children.

Being a girl child decreases the odds of being inactive by 0.474. Being a male, it increases by 2.11. Therefore, male children are more likely to be inactive rather than girls. Nevertheless, age-wise break down might show a different picture. Children of lower age group are more likely to be inactive than be working. Being in the lower age group increases the odds of being inactive by 12.52.

On the contrary, children in the age group 11-13 years are more likely to be child labourers. Children in rural regions are more likely to be inactive then they are working. This is reflected in the sheer number of children who are inactive in rural regions compared to meagre number of them working. Children from the lower caste are less likely to be inactive. The odds that they remain inactive decreases by 0.969 and the odds that they work increases by 1.032. Caste has no significant influence on a child labourer turning inactive.

Table 3.6 Binary Logistic Regression Results

Variable	B	Std. Error	Exp(B)
Family size	-0.076**	0.009	0.927
Education of adult male	0.002	0.007	1.002
Education of adult female	0.048**	0.010	1.049
Total Family Income	8.492	5.13	4875.61
HDI	-0.029**	0.004	0.971
Dropout Rate (%)	0.015**	0.002	1.015
Unemployment rate (%)	-0.037	0.020	0.964
Population below Poverty line (%)	-0.048**	0.002	0.953
Dummy for Girls	-0.747**	0.044	0.474
Dummy for Rural Regions	0.247**	0.062	1.280
Dummy for Backward caste	-0.032	0.045	0.969
Number of Working Women in Family	0.284**	0.053	1.329
Dummy for younger age group	2.528**	0.063	12.523
Dummy for Cultivators	0.475**	0.051	1.607
Constant	-2.243**	0.133	0.106
Pseudo R^2(Nagelkerke)	0.301		

*Reference category: working children; **- significant at 1% level.*

Increase in the number of working women in the family increases the number of inactive children. Children from families that are involved in farming are likely to be inactive. Odds that they are inactive are 1.607 while the odds that they are working are only 0.6223. This result could also be influenced by the fact that parents are less likely to report their children working in their own farms as child labourers. The multinomial results showed that children from non-farming families are less likely to be working. Here these results show children even from farming families are more likely to be inactive than working.

3.6 Summary and Conclusions

As suggested earlier, child labour is a symptom and not the problem. Instead of directly abolishing child labour, determinants that promote child labour should be tackled for a meaningful elimination of child labour. This study once again proves the importance of education as increasing the education of both adult male and female education improves schooling. The effect of female education has a higher effect than male education. Higher fertility rates mean more working and inactive children. The current average family size of selected data is around six members per family. Reducing the family size will have a positive impact on schooling.

Improving the school attendance rates is not sufficient. Improvement in the quality of education is essential, as reduction in dropout rate is shown to have negative impact on child labour. When the educational quality is better, it will certainly reduce the dropout rates. Gender, social and regional disparities existing should be removed, as girl children, children from lower castes and rural regions are found to have a tendency to stay away from school. Farming by the family shows ambiguous results as it shows that children tend to be inactive regardless of whether the family is involved in farming or not.

3.7 References

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4 Returns to Education in India

Educating children is a household decision to invest in human capital. Like other investments, profitability of investing in education needs to be studied to compare with its alternatives. Though it is not essential to prove the merits of basic education, it is needed, at the family level, to make a decision on efficient utilisation of the child's time and at the government level, to prioritise the allocation of public funds across educational levels. Returns to education capture the rewards offered by the labour market for higher education and serves as a guide for public and private investment in education. It further explains the reason behind individual demand or the lack of it for a particular level of education.

Parents based on their objectives, constraints and information make the decision on choice of schooling over child labour. Given poverty in the family, parents may have a difficult choice to make in allocation of time of their children between entering the informal labour market to support the family and attending schools. Parents or children happen to choose child labour over schooling because its net economic value (benefits minus cost) is positive in the short run. The information about quantity and quality of education and returns to education and the abilities and preferences of their children all influence the choice (Pritchett, 2004). Rate of return to education when lower may induce the decision for entry into labour market.

Rates of return have been estimated by various studies on an all India basis, across rural and urban regions, across time and between the formal and informal labour markets. In this study the field of enquiry further widened by estimating returns to

different levels of education across primary, secondary and tertiary[7] sectors in the formal (regular workers) and informal labour (casual workers) markets in India. Given the deep duality in the labour market, overall rates of return cannot provide a true depiction of reality. By estimating returns across sectors in the formal and informal markets, the pattern of rates of returns can be clearly understood. Poor returns in a particular sector and region will help the policy makers to review the educational and employment policies.

4.1 Education in India

Decision on whether to attend school or to enter the labour market and the choice of school level one aspires to study depends, among others, on the quality and quantity of educational supply. In both the aspects, education in India fares poorly. The quality of education is a major concern as a study shows that the primary reason why parents do not send their children to schools is due to their lack of faith in formal education (Chandrasekhar and Mukhopadhyay, 2004), making it clear that good quality of education is a prerequisite for the elimination of children out of school especially child labour. Lack of or inaccessible schools, especially higher secondary schools are still a major problem in many Indian villages (Mehta, 2006). The reason for lack of schools in rural areas is the poor public spending on education in India, which is lower than the other low-income nations. The combined state-central expenditure on education was 3.49% of GDP, which is lower than the recommended 6% level. India with the overall literacy rate of 64.8 % in 2001 (Census of India, 2001) lags behind

[7] Primary - Agriculture and allied; Secondary - Mining, manufacturing and quarrying; Tertiary - Services.

other developing nations in Asia like Sri Lanka (92%) and China (86%)which have higher literacy rates.

The Constitution of India guarantees access to education as a basic right for its citizens. It also guarantees free and compulsory education for its citizens until the age of 14. Moreover, majority of states offer free schooling from I to XII grades. Though there are no schooling costs in public schools, other costs involved may hinder the enrolment or retention of children in schools. The financial constraint is the second important factor hampering school enrolment. Compulsory elementary education is legalised in just a handful of states and union territories' legislatures. However, the extent to which it is implemented is a question.

'Universal Elementary Education[8] for All' (Sarva Shiksha Abhiyan), a project sponsored by the central government aiming at 100% enrolment and retention of all children of elementary school going age (6-14 years) was implemented in the year 2001. The project has a special focus on children from children from backward castes and marginalised families and working children. The successful implementation of the project would bridge the gender, regional and social gaps in education. Central government imposes a 2 % educational cess on all central taxes (income tax, corporate tax, excise and custom duties) to finance this project. The project is being implemented in phases with 2010 being the final phase. However, the project has met with barriers and it could not reach its planned target in 2005. It continues to be implemented in more number of districts across India.

The education system in India comprises of primary, middle, high and higher secondary levels and post schooling education in universities (bachelor studies and

[8] Elementary education includes primary and middle school levels.

professional studies[9] and higher studies in both categories). Though education is a concurrent item, over which both state and central governments share responsibilities, the state government plays a major part in primary and secondary school education. Therefore, there exist differences in schooling system between states. However, most states follow 5 years of primary, 3 years of middle and 2 years each of high and higher secondary levels (totally 12 grades). The system of higher education is uniform through out Indian universities.

Though Indian economy is growing fast with the aid of skilled labour, the reality in rural India is different, which is lagging far behind the urban regions. The literacy rates are poor and employment opportunities for skilled workers are low in rural India. Rural region and women lag behind urban region and men respectively in literacy rates. The number of households with no single literate member was 26.1% and 8.4% in rural and urban regions respectively. Percentage of rural households with no female literate members was found to be as high as 50% (Government of India, 2006). Such high disparities in literacy rates will affect equity in education, employment, wages and eventually growth.

Growth in literacy rates in India is presented in the table 4.1. The data is from various rounds of National Sample Survey Organisation's Surveys on Employment and Unemployment. The data shows a wide gender gap and regional (rural vs. urban) gap.

[9] Professional studies include bachelor studies in agriculture, engineering and medicine.

Table 4.1 Literacy Rates across India [a]

Year	Rural		Urban	
	Male	**Female**	**Male**	**Female**
1983	44.9	21.9	69.3	51.5
1987-88	48.4 (7.8)	26 (18.7)	71.9 (3.8)	55.6 (8.0)
1993-94	54.5 (12.6)	32.1 (23.5)	75.9 (5.6)	61.6 (10.8)
1999-00	58.8 (7.9)	38.5 (19.9)	78.4 (3.3)	65.7 (6.7)
2004-05	63.6 (8.2)	45 (16.9)	80.5 (2.3)	69.3 (5.5)

Source: Government of India (2006); a – growth rates in parentheses.

Though the female literacy growth rates are higher, the gender gap remains wider. Literate women are the key in hastening the overall literacy rate growth as literate women ensure literate children. Very poor literacy rate for rural women is disturbing as rural India is already lagging behind the fast growing urban regions. Bringing quality education to rural regions will be the only way to ensure economic growth and the much-needed diversification in the rural economy.

Table 4.2 Educational Characteristics of States with High Occurrence of Child Labour

State	Literacy Rates[1]	Spending on education as % of state GDP (1998-1999)[2]	% of single class room schools(2004-05)[1]	Average number of teachers/ school (2004-05)[1]	Dropout %(I-VIII classes)[2] 1998-99 (provisional)
Andhra Pradesh	60.5	2.43	23.7	5	73.30
Bihar	47	4.02	11.3	3.1	77.06
Karnataka	66.6	2.92	12	4.3	61.36
Madhya Pradesh	63.7	2.69	8.2	3.4	48.64
Maharashtra	76.9	2.21	9.2	5.8	39.14
Uttar Pradesh	56.3	3.09	2.1	2.8	53.11
West Bengal	68.6	2.71	17.1	3.9	74.20
Kerala	***90.9***	***3.25***	***1.7***	***10.2***	***-4.25***
Indian Average	**64.8**	**0.50**[10]	**na**	**na**	**56.82**

Sources: 1. Mehta (2006.b), 2.National Human Development Report (2001). na - not available.

According to Census of India (2001), there are around 58.02 million children out of school, concentrated in the states of Uttar Pradesh, Bihar, Madhya Pradesh, West Bengal, Orissa, Andhra Pradesh, Rajasthan and Assam. In the same states, incidence of child labour is also higher. Table 4.2 presents quantitative and qualitative characteristics of schools in the same states. Here it is compared with the national average and another state, Kerala, with low child labour incidence and high literacy rate. Many selected states especially, Uttar Pradesh and Bihar have literacy rates

[10] The number represents the central government's expenditure on education and not average of all states.

lower than the national average of 64.8%. Kerala has a literacy rate of 90.9%, highest in India. States' spending on education is around 2 to 4 % in all states including Kerala, which is very low in spite of being higher than the national average.

Quantity variables of schooling affect the quality of education and of the human capital output of the state in the long term. Numbers of schools that operate in a single room building are very high in many states, especially in Andhra Pradesh and West Bengal. But the numbers of such schools are lower in Kerala. Average number of teachers per school is very low in all child labour high states and though it is comparatively higher in Kerala, the numbers are lower than recommended.

Drop out rate is the percentage of students dropping I-VIII classes in the year 1998-99. It can be perceived as a quality indicator of schools' performance. Reports suggests that drop out rates are higher for girls than boys, which may be primarily due to social reasons. Primary reasons cited for dropping out were economic considerations and lack of interest in schooling for the parents or the children. Other reasons were lack of friendly environment at schools, lack of confidence about usefulness of schooling and being unable to cope with the demands of schooling. Many states with higher child labour incidence also have high drop out rates, higher than the national average. Kerala shows a negative drop out rate, indicating higher enrolments and very less dropouts. Having higher literacy rates is helping Kerala to maintain higher enrolment and fewer dropouts. Kerala remains a role model for states with child labour, reasserting the belief that child labour could be fought with increasing literacy levels through proper policies promoting quantity and quality of schools.

4.2 Previous Empirical Studies

There was a widely prevalent notion in the 1970s that public investment in education in India was uneconomical. Heyneman (1979) questions this notion and suggests that the opposite might be true. He studies the available rates of returns to education, education policies and labour market scenario in India and points to existing high rates of return and asserts that investing in education would be profitable. He suggests to investing in education to expand enrolment and impart basic skills to adults. To achieve equality in growth he calls to make investments in the neediest milieus in education.

Indian economy has undergone dynamic changes after Heyneman's study. Literacy rate has more than doubled and liberalisation in the early nineties has resulted in the bulge of middle class helped by education, which is being experienced now. The study by Duraisamy (2002) captures the pre-liberalisation and post-liberalisation employment trends. Using two rounds of National Sample Surveys from 1983 and 1993-94, the author studied the changes in returns to education India. He found that substantial gender and rural-urban gaps existed in returns. Returns to women's higher school education have increased in the reference period. Returns increased until secondary level and declined thereafter. The likelihood of entering wage employment increased with higher education. The study also found that the returns were higher for lower levels of education in rural regions and in urban regions returns to higher education was higher.

Dutta (2004) studies wage structure for adult male workers from NSS surveys and compares between casual workers and regular workers, spanning two decades 1980s and 90s. She finds that returns to education are different for the two set of workers confirming the duality in labour market. The returns were found to be flat for casual

workers whereas the regular workers enjoyed increasing returns for increase in level of education. The returns for regular workers have risen with time. Wide gap is found between returns for lower and higher levels of education and this the author attributes to trade reforms and liberalisation.

4.3 Mincerian Earnings Function

Human capital theory assumes that education is an investment of current resources, opportunity cost of time spent and other direct costs, in exchange for future returns. The level of education; s, is chosen to maximize the present value of future returns up to the retirement time T, net of the costs of education Cs. Therefore, at the optimum s, present value of s^{th} year of schooling equals the cost of education during the s^{th} year. This equilibrium is characterised by,

$$\sum_{t=1}^{T-s} \frac{W_s - W_{s-1}}{(1+r_s)^t} = W_{s-1} + C_s$$

where r_s is the internal rate of return.

If T is large enough and Cs being sufficiently small (wherever public education is free), then,

$$r_s \approx W_s - W_{s-1} / W_{s-1} \approx \log W_s - \log W_{s-1}$$

implying that return to s^{th} year of schooling, r_s, is the difference in log wage between leaving the school at s and at s-1 (Harmon *et al*, 2004). Thus, it is closely related to the marginal rate of return, under following assumptions,

1. Earnings measure captures full benefits of the investment.
2. The only costs are foregone earnings.
3. Schooling and experience are separable and do not interact.
4. The length of the working life is the same, independent of the length of the schooling.
5. Schooling precedes work.
6. The economy is in steady state without wage and productivity growth.

Empirical derivation of human capital theory is the earnings equation, derived by Jacob Mincer (Mincer, 1974), is one of the most commonly used equation in labour economics. It translates causal effect of schooling on wages into a measure of return that can be compared with similar measures of return on other investments, for example, physical capital. The following equation is an extended earning equation that uses dummies for different schooling levels instead of years of schooling to capture discrete shifts in returns to each level of schooling.

$$\ln w_i = \alpha + \Sigma_k \beta_{ik} S_{ik} + \gamma_1 E_i + \gamma_2 E_i^2 + u_i$$

Where w is the weekly wages, S represents the k level schooling dummies and E is potential experience[11]. E^2 captures the quadratic relation between experience and earnings[12]. α, β, γ and δ are the coefficients to be estimated and u is the disturbance term. The co-efficient estimates the percent increase in earnings resulting from additional level of schooling and is typically interpreted as rate of return to schooling. As the equation is semi log in nature, the co-efficients are adjusted by ($e^{\text{co-efficient}}$) – one. (Halvorsen and Palmquist, 1980).

The educational levels considered are primary, middle, high, higher secondary, university education[13]. Illiterates, individuals who did not complete primary schooling and individuals who attended adult education programmes form the reference group. The average rate of return per year of schooling for k^{th} level of schooling is calculated by,

$$r_k = (\beta_k - \beta_{k-1})/Y_k$$

[11] Potential experience is calculated as age minus years of schooling minus six, assuming children are entering school at the age of six.

[12] The expected sign of the variable experience squared is negative; it implies that returns due to experience increase at a diminishing rate.

[13] Data on postgraduate education is not available and is not included in the study.

where y_k is the number of years of schooling in the kth level.

For example, rate of return for persons with primary education is calculated as,

$r_{(\text{primary versus illiterates})} = \beta_{(\text{primary})} /5.$

It takes five years to complete primary school. Similarly returns to middle school which is the next level after primary school, are calculated as additional returns over returns to primary education.

$r_{(\text{middle versus primary})} = \beta_{(\text{middle})} - \beta_{(\text{primary})} /3.$

In a similar way, returns for other levels are calculated.

E^2 captures the non-linear relationship between earnings and experience. It helps in finding out after how long being in a job, experience stops adding to earnings. It is calculated by

$= \gamma_1 / (-2\gamma^2).$

4.4 Data and Variables Included

Data from the 55th round of NSS on Employment and unemployment was used in the analysis. Details on the survey are described in the third chapter. As mentioned in the methodology, multiple dummies for different levels of education, potential experience and its quadratic term are included in the equation. Apart from the conventional variables, other factors thought to influence the earnings of an individual are also included in the earnings equation. Important of them is caste of the respondent. Caste of a person plays an important role especially in casual employment. Backward castes[14] or the so called 'outcastes' have been persecuted in the Indian society for centuries. According to the latest census from the year 2001, 24 % of the Indian population are from backward castes (16% from scheduled castes and 8% from schedule tribes).

[14] Backward caste persons include those from scheduled castes and scheduled tribes who are accorded special status by the government of India.

Gender of the person is also expected to influence the wages. Women form 48.4% of the Indian population and the female work rate participation according to the same census is 25.6%. Both the caste and gender are included as dummy variables for persons from backward castes and women (with forward caste and men being the base). There is still the practice of paying employees in kind. Many are paid both in cash and in kind. A dummy variable for those being paid in kind either fully or partly is included to study how the mode of payment influences wages. All the above-described variables were gathered from the NSS 55th round survey data.

The HDI rank of the state where the respondent resides is also included as a determinant. HDI rank of states was obtained from National Human Development Report published by the Government of India in the year 2001. The HDI is a composite of variables capturing attainments in three dimensions of human development viz. economic, educational and health. These have been captured by per capita monthly expenditure adjusted for inequality; a combination of literacy rate and intensity of formal education; and a combination of life expectancy at age 1 and infant mortality rate. Share of agriculture in the state's (where the respondent resides) net domestic product indicates the extent of industrial development of the state economy. It also influences the inter sector differences in wages.

As per the NSSO survey, out of 394 million in the workforce, only 28 million are employed in the organised sector (formal labour market) and the rest are employed by unorganised sector (informal labour market). The informal and formal employment duality is expressed in the data set as casual worker or wage labour and regular worker or wage employee. Casual worker is a person, who was casually engaged in others' farm or non-farm enterprises (both household and non-household) and, in

return, received wages according to the terms of the daily or periodic work contract, was a casual wage labour.

Regular workers are persons who work in others' farm or non-farm enterprises (both household and non-household) and, in return, received salary or wages on a regular basis (i.e. not based on daily or periodic renewal of work contract). This category included not only persons getting time wage but also persons receiving piece wage or salary and paid apprentices, both full time and part-time.

4.4.1 Sample Selection Bias

In this study, only waged individuals, either casual or regular are selected for analysis. Self-employed persons are not included as their income details are unavailable in the survey. This restraint might lead to the familiar problem of sample selection bias. The procedure prescribed by Heckman (1979) is employed here to remove the bias. The procedure involves two steps. Firstly, the probability of an individual of entering waged employment is estimated by probit regression using a series of personal characters as estimators. From the results, the Inverse Mill's ratio[15] is calculated and inserted into the earning equation as an estimator. This variable captures the effects of unstudied variables. The equation then estimated is free of censoring bias.

Determinants of whether a person enters the labour force as a 'worker' (either as wage employee or as a casual worker) are his years of schooling, potential experience, dummy for gender[16], dummy for caste[17], dummy for region (either rural or urban),

[15] Inverse Mill's ratio= Standard normal probability distribution function / Standard normal cumulative distribution function

[16] 0 if the respondent is male and 1 if female.

[17] 0 if the respondent belongs to a forward caste and 1 if they belong to a backward caste.

land cultivated, either leased or owned, dummy for self employed households in both rural and urban regions were used. As most of the self-employed persons are farmers, dummy variable for land cultivated is significant.

4.5 Summary Statistics

Mean values of the some selected variables are presented in table 4.3. Average years of schooling were found to be lower in rural India. Regardless of the region and type of employment, it was always lower for those who worked in the primary sector.

Persons from lower castes are usually employed in the primary sector rather than in other sectors. And they are significantly less employed in urban wage employment. Krishnan (1991) explains how caste of an individual determines their own decision on choice of occupation in rural regions. Persons from the lower castes are usually into unskilled agricultural occupations because of the existing traditions and their lack of education.

Similarly, women are found to be employed predominantly in primary sectors than the others, with the exception being the urban wage employment where they are 20% compared to 17.8 % in primary sector. This is the result of gender disparity existing in education. Exiguity of women in the skilled jobs is an evidence for parents' hesitation in investing in girls' education generally and higher education in particular. The prevailing gender gap needs to be addressed through proper policy measures.

Table 4.3 a Characteristics of Select Groups of Workers in Rural India

Variable	India	Rural	Rural Casual Workers			Rural Regular workers		
			Primary sector	Sec. sector	Tertiary sector	Primary sector	Sec. sector	Tertiary sector
Education (years)	5.62	3.68	1.75	3.47	3.92	3.1	6.63	9.65
Backward castes %	34.2	43.1	50.7	43.5	33	37	25.3	27.3
Women %	23.4	27.7	36.1	14.5	13.9	25.7	13	16.8
Payment in Kind%	4.4	6.6	9.6	2.4	3.9	5.4	2	2
Mean Weekly Wage	624.1	395.05	206.15	340.01	339.61	336.51	674.00	1030.47
Sample Size	87223	47748	26981	5194	2287	2957	2452	7877

Table 4.3 b Characteristics of Select Groups of Workers in Urban India

Variable	Urban	Urban Casual Workers			Urban Regular Workers		
		Primary sector	Sec. sector	Tertiary sector	Primary sector	Sec. Sector	Tertiary sector
Education (years)	7.96	1.97	3.86	4.22	5.29	8.36	10.04
Backward castes %	23.5	49.1	35.8	31.1	25.3	16.1	19.6
Women %	18.2	41.3	14.4	21.4	17.8	9.2	20
Payment in Kind%	1.7	4.2	1.9	2.2	3	1.4	1.3
Mean Weekly Wage	901.16	242.50	380.96	349.96	681.90	953.68	1168.55
Sample Size	39475	1728	5418	3497	332	7602	20898

Source: Calculated from NSS 55th survey data.

In India, about 4.4 % of workers are paid in kind, either partly or fully. In rural regions, payment in kind is higher. Also, in the primary sector is where payment in kind is higher than other sectors.

Similar pattern is noticed in the wage structure as well. Here in the table only nominal wages are presented. Primary sector provides very poor wages compared to the other two sectors but the average level of education is also lower in this sector. Wages are lower in rural regions than urban regions. Only exception being wages in the primary casual employment in rural region is better than the urban wages in the same sector. In both the regions, regular workers in tertiary sector are paid highly but higher are their educational level as well. The wage differences reflect the hierarchical and occupational differences between the sectors and between the formal and informal labour markets.

4.6 Regression Results

The regression results of wage equation for India, rural and urban regions are presented in table 4.4. Dummies for the educational levels and experience are positive indicating that they all add positively to earnings. The negative quadratic term indicates that experience stops adding positively to earnings beyond particular years of experience. On an average, experience stops adding positively to earnings after 37.6 years, 35.56 years and 39.92 years in job on all India, rural and urban levels respectively. On all levels, caste is a significant variable that explains variations in earnings. In rural regions, persons from lower castes earn lower than those from higher castes. On the contrary, in urban regions, persons from lower caste earn higher than those from higher caste, indicating that caste equations differ between rural and urban regions, which is a welcome change. Job reservations are also available for those from the lower castes, in regular employment in public enterprises.

Such a change, no discrimination based on caste, might happen in rural regions also as studies point out to changing dynamics of caste in the rural context as well. Gupta (2005) points out how the caste system is falling apart and but caste identities are

surviving in Indian villages. The land owning forward castes can no longer exert control over the landless lower castes in the new economic domain, as the latter now have space to express their self worth and identity as result of improvement in their literacy level and increased mobility to urban labour market. This irrevocable trend is growing fast.

It is evident from the all India results that the residents of rural regions earn less than the urban dwellers. At all the three levels, women earn less than men, those in informal jobs earn less than those in formal jobs, those employed in secondary and tertiary sectors earn higher than those in primary sector. Persons receiving wages in kind, either fully or partly, earn less than those who receive cash payments. As the HDI rank increases or as development level falls, the wages also decrease at all India level and in rural India. Contrarily change in HDI rank of the state does not influence the earnings in urban regions.

Higher share of agriculture in NDP of the state of residence shows a positive effect on wages at all India level and in rural regions but it has a negative relationship with wages in urban regions. As the economy tends to be more agrarian, wages get diluted in the predominantly tertiary sector oriented urban regions. The inverse mills ratio is negative and significant for all India and rural regions, indicating that there was sample selection bias and it was removed. Negative sign indicates that unobserved factors that affect the probability of being a worker are inversely related to their earnings as workers.

Workers from the rural and urban regions were divided based on the type of employment into casual and regular workers. Then they were again sub divided into three sectors *viz.* primary, secondary and tertiary sectors. Regression analysis was performed for these groups of workers.

Table 4.4 OLS Estimates of Wage Equation across Rural and Urban India [a]

Variable	India	Rural	Urban
Constant	5.101 (200.9)	5.298 (166.62)	4.764 (90.21)
Primary School	0.2207 (25.67)	0.1732 (17.17)	0.2586 (18.33)
Middle School	0.4208 (44.58)	0.3118 (25.91)	0.5226 (33.63)
High School	0.9317 (74.43)	0.7739 (45.11)	1.077 (53.61)
Higher Secondary School	1.4274 (81.19)	1.177 (46.0)	1.675 (60.58)
University Education	2.6667 (125.7)	1.9593 (64.23)	3.231 (87.21)
Experience	0.0539 (85.45)	0.0380 (45.49)	0.0687 (67.94)
Experience^2	-0.00072 (-72.55)	-0.00053 (-42.16)	-0.00086 (-52.67)
Dummy for Backward Caste	-0.0128 (-2.02)	-0.071 (-9.77)	0.1034 (8.21)
Dummy for Women	-0.2745 (-37.02)	-0.2647 (-30.96)	-0.3099 (-20.88)
HDI	-0.00214 (-5.72)	-0.0038 (-8.3)	-0.00043# (-0.677)
Dummy for Wage Payment in Kind	-0.1201 (-12.12)	-0.135 (-12.74)	-0.0655 (-2.69)
Percent Share of Agrl. in NDP	0.00093 (3.66)	0.00277 (7.60)	-0.00093 (-2.63)
Dummy For rural Regions	-0.0799 (-14.41)	-	-
Dummy for casual Worker	-0.3087 (-61.21)	-0.2754 (-39.11)	-0.3444 (-47.77)
Dummy Secondary Sector	0.4525 (54.98)	0.4544 (45.27)	0.3703 (20.4)
Dummy Tertiary Sector	0.4886 (55.53)	0.6232 (51.54)	0.3503 (19.37)
Inverse Mills Ratio	-0.132 (-11.01)	-0.17172 (-13.32)	-0.0098# (-0.34)
Adjusted R^2	**0.603**	**0.512**	**0.535**
Sample Size	**87385**	**47838**	**39547**

a – t-values in parentheses; # - insignificant; all other variables are significant at 1% level.

In the table 4.5, OLS results of wage equation for regular and casual workers in the three sectors in rural region are presented. Sample sizes show that casual employment (informal employment) in primary sector is the predominant occupation of workers in rural regions.

In most cases educational levels, experience and quadratic term of experience were significant and had the expected relationships. However, for casual workers employed in primary sector and in tertiary sector, coefficient for university education was found to be insignificant (sample size of those with university education among this group is 50 as against the total size 26962 in primary sector). Caste is a significant variable explaining changes in wages in primary sector but insignificant in secondary and tertiary sectors for both casual workers. Among regular workers, caste is negatively related to wages and in secondary and tertiary sector; it is positively related to wages. These results indicate how the caste status of an individual significantly influences his/her wages in the primary sector. Minimum wages recommended by the government usually does not hold in primary sector as landowner determine the wages. As mentioned earlier, caste based discrimination is abating in many spheres and in formal sector such discrimination would not be possible. To witness such a trend in primary sectors where forward caste persons are landowners might take time.

Female workers earn less than their male counterparts in all sectors except in regular employment in primary sector where the variable, gender, was insignificant. Gender disparity is prevalent even among skilled workers in the urban tertiary sector, which needs to be corrected. Policy measures against gender disparity should begin in the educational policy itself. In all the groups, persons earning in kind are also earning less than their cash-earning counterparts are.

Table 4.5 OLS Estimates of Wage Equation for Rural Workers [a]

Variable	Rural Casual Workers			Rural Regular workers		
	Primary sector	Sec. sector	Tertiary sector	Primary sector	Sec. Sector	Tertiary sector
Constant	5.416 (144.1)	5.619 (68.77)	5.308 (41.24)	6.453 (43.79)	4.899 (36.86)	4.793 (56.79)
Primary School	0.1068 (8.29)	0.1472 (6.02)	0.0866 (2.29)	0.08 (2.03)	0.242 (4.84)	0.387 (8.72)
Middle School	0.1176 (7.89)	0.2368 (8.59)	0.2632 (6.03)	0.193 (4.01)	0.501 (9.61)	0.775 (17.88)
High School	0.1702 (7.07)	0.3361 (8.4)	0.3750 (6.09)	0.713 (9.66)	1.049 (15.63)	1.704 (33.21)
Higher Sec. School	0.113 (2.63)	0.3608 (4.67)	0.3537 (3.12)	1.206 (10.28)	1.584 (16.03)	2.424 (37.09)
University	-0.0394# (-0.513)	0.4447 (3.09)	0.2045# (1.63)	1.819 (12.07)	3.256 (22.61)	3.511 (45.27)
Experience	0.0126 (11.98)	0.0289 (12.29)	0.0331 (9.41)	0.028 (7.70)	0.069 (16.99)	0.0725 (28.22)
Experience^2	-0.0002 (-14.57)	-0.0004 (-10.58)	-0.00046 (-8.44)	-0.0005 (-9.5)	-0.0008 (-12.43)	-0.00085 (-18.65)
Dummy Caste	-0.117 (-13.70)	-0.0287# (-1.49)	0.0196# (0.595)	-0.258 (-8.98)	0.064* (1.66)	0.0651 (2.77)
Dummy for Female Worker	-0.236 (-23.09)	-0.3586 (-14.86)	-0.481 (14.22)	0.066# (1.48)	-0.53 (-13.96)	-0.2824 (-10.88)
HDI	-0.0033 (-6.27)	-0.0083 (-6.33)	-0.011 (-5.44)	-0.012 (-6.02)	-0.0042* (-1.8)	0.00049# (0.331)
Dummy for Kind Payment	-0.129 (-11.93)	-0.1618 (-3.53)	-0.261 (-4.85)	-0.182 (-3.84)	-0.24 (-2.99)	-0.158 (-3.04)
Percent Share of Agrl. in NDP	0.0051 (10.23)	-0.0029 (-2.96)	0.0012# (0.767)	0.004 (2.84)	-0.0006# (-0.465)	-0.0016# (-1.64)
Inverse Mills Ratio	-0.2101 (-13.77)	-0.0804 (-2.19)	0.0501# (0.802)	-0.553 (-12.94)	0.047# (0.686)	-0.0376# (-9.93)
Adjusted R^2	0.142	0.150	0.187	0.296	0.413	0.386
Sample Size	26962	5184	2287	2953	2451	7868

a – t-values in parentheses; # - insignificant; - significant at 5% level; all other variables are significant at 1% level.*

A good HDI rank of the state of residence has a positive influence on earnings, except for regular workers in tertiary sector where the variable is insignificant. Increasing the

HDI rank (or actual fall in development status) of the state would bring down wages. Share of agriculture in the state NDP is positively related to both casual workers and regular workers in primary sector and negatively related to casual workers in secondary sector. A strong agricultural performance of the state will promote wages in primary sector. For all other groups the variable has an insignificant relationship. Inverse mills ratio was negatively significant in few groups. The adjusted R^2 values are higher for regular workers suggesting that the choice of explanatory variables explain the variation in regular workers' wages better.

The results of wage equation for urban workers are presented in table 4.6. Regular employment in tertiary sector is the primary occupation of urban workers. Among the urban casual workers in primary sector, coefficients for higher secondary school and university education was insignificant (Their sample sizes were low, 9 and 20 respectively compared to the total group size of 1727). For urban regular workers in primary sector coefficient for primary and middle school dummies were insignificant though the sample size was reasonable to the group size (29 and 49 respectively in the total group size of 331).

In the urban regions, caste was an insignificant variable for all casual workers. It was negatively related to wages of regular workers in primary sector, but was positively related to regular wages in secondary and tertiary sectors. The negative sign indicates that the persons from backward castes earn lower than workers from other castes. Conversely persons from lower castes employed in secondary and tertiary sectors earn higher than workers from other castes, which is made possible by job reservations and reservations in promotions. Women are paid lower than men in all the studied groups.

Table 4.6 OLS Estimates of Wage Equation for Urban Workers [a]

Variable	Urban Casual Workers			Urban Regular Workers		
	Primary sector	Sec. sector	Tertiary sector	Primary sector	Sec. Sector	Tertiary sector
Constant	5.0421 (28.57)	5.489 (48.15)	4.820 (29.39)	7.546 (18.04)	4.868 (39.63)	4.820 (70.81)
Primary school	0.1051 (2.16)	0.1352 (5.6)	0.2528 (6.92)	0.1276# (0.379)	0.1877 (6.17)	0.2929 (11.85)
Middle school	0.1676 (2.67)	0.2125 (7.65)	0.3876 (9.22)	-0.0166# (-0.14)	0.4712 (13.75)	0.635 (24.68)
High school	0.3542 (3.77)	0.3534 (8.79)	0.5537 (8.91)	0.6461 (3.64)	1.004 (22.85)	1.295 (41.708)
Higher sec. school	0.1239# (0.897)	0.3638 (5.19)	0.7329 (7.64)	1.0770 (4.29)	1.6246 (26.84)	1.950 (47.77)
University	0.1378# (0.68)	0.4128 (3.47)	1.7668 (11.92)	0.8194 (3.55)	3.2494 (36.37)	3.55 (65.33)
Experience	0.0193 (4.60)	0.0322 (13.66)	0.0499 (16.25)	0.04068 (3.38)	0.0663 (28.41)	0.0766 (50.43)
Experience^2	-0.0003 (-4.59)	-0.0004 (-11.98)	-0.0007 (-14.55)	-0.0009 (-4.63)	-0.0008 (-19.99)	-0.0009 (-35.86)
Dummy caste	0.0069# (0.16)	0.0093# (0.35)	0.009# (0.23)	-0.2781 (-3.08)	0.1099 (3.49)	0.159 (8.67)
Dummy for women	-0.4378 (-9.99)	-0.3522 (-10.54)	-0.4956 (-12.12)	0.1155# (0.78)	-0.397 (-10.69)	-0.1989 (-8.91)
Dummy HDI	-0.002# (-0.83)	-0.0005# (-0.35)	-0.0074 (-4.01)	-0.0197 (-2.73)	0.0124 (8.92)	-0.0033 (-3.52)
Dummy for Kind Payment	0.0409# (0.607)	0.0311# (0.564)	0.1331* (1.78)	-0.3263* (-1.92)	-0.2021 (-3.74)	0.063* (-1.65)
Percent share of agrl. in NDP	0.0033* (1.87)	-0.0049 (-5.45)	0.0031 (2.32)	-0.0063* (-1.71)	-0.0034 (-4.57)	0.0007# (-1.45)
Inverse Mills Ratio	0.1037# (1.05)	-0.0214# (-0.34)	0.1323# (1.29)	-0.6731 (-5.6)	0.0643# (0.85)	0.090 (-2.3)
Adjusted R^2	0.203	0.130	0.242	0.471	0.450	0.446
Sample size	1727	5414	3494	331	7592	20880

*a – t-values in parentheses; # - insignificant; * - significant at 5% level; all other variables are significant at 1% level.*

Regular and casual workers in the tertiary sector receiving kind payments receive higher wages (in cash equivalents) than their cash-earning counterparts. But it is

negative for regular workers in primary and secondary sectors. HDI rank of the state is inversely related to wages in most cases, except for regular workers in secondary sector where surprisingly increase in the HDI rank of the state positively affects the wages.

Increasing the share of agriculture in the state economy would positively influence wages of casual workers in the primary and tertiary sectors. But it negatively influences wages of casual workers in the secondary sector and regular workers in the primary and secondary sector. The inverse relation between the share of agriculture in NDP and regular workers' wages in primary sector is perplexing. It is expected that strong agricultural performance would increase the wages in the primary sector but here the results show otherwise. It might be because here only urban labour market is studied, where share of primary sector is negligible. Inverse mills ratio wherever significant is negative indicating that the unobserved factors have an inverse relationship with wages.

Table 4.7 Rates of Returns to Education in India and Rural and Urban Regions

Level of Education	India	Rural	Urban
Primary	4.41	3.46	5.17
Middle	6.67	4.62	8.80
Secondary	25.55	23.10	27.74
Higher secondary	24.78	20.16	29.86
University	41.31	26.08	51.89

Source: calculated from the regression results.

4.7 Rates of Return

Returns to education for various regions and sectors in India and rural and urban india is presented in table 4.7. The conventional pattern of very high returns to primary schooling and reducing returns to increasing levels noticed in many countries is not to

be seen here. It is in conformity with other rates of return studies in India. (Dutta, 2004), where returns to primary education is lower and for the further levels the returns increase. Returns to education across India and in rural and urban regions show an expected increasing trend. The returns to lower educational levels are poor but it should also be mentioned here that it is only the private returns to education studied here. Social returns to education even for the lower levels, would be very high and it is also reflected in the citizens who are aware of their rights and responsibilities, but it is difficult to measure.

Lower returns to elementary education (primary and middle school levels) also point to the poor quality of education offered. This calls for an immediate attention on the elementary education. The Project 'Universal Elementary Education for All' was implemented with this schooling level in focus. But this project has to be implemented on a wider scale to achieve substantial results. In most cases, returns show a decline in the higher secondary level. Such a fall in returns to higher secondary schooling was noticed in Duraisamy (2002). It might be a deterring factor and the students might be tempted to enter labour market after high school. Given that higher secondary is the higher most schooling level, its supply is less and students in rural regions have to walk / travel a distance to attend these schools is already a hindering factor. Returns, as expected, are lower in rural regions than in urban regions.

Returns to education for regular and casual workers in the three sectors of rural region are presented in table 4.8. Returns to education for those in casual employment are very poor in all the three sectors revealing that the informal labour market offers very poor returns to education. Poor returns to education is the cost of being employed in the unorganised sector. It is easy to find a job and switch jobs easily but on the cost of

poor wages and working conditions. However, its role is essential in the economy and is bound to grow. The unorganised sector employs the major chunk of the work force and contributes significantly to the national product.

Table 4.8 Rates of Return to Education for Casual and Regular Workers across Sectors in Rural India

Level of Education	Casual Workers			Regular Workers		
	Primary Sector	Secondary sector	Tertiary sector	Primary Sector	Secondary sector	Tertiary sector
Primary	2.14	2.94	1.73	1.60	4.83	7.73
Middle	0.36	2.99	5.89	3.77	8.63	12.9
Secondary	2.63	4.97	5.59	25.97	27.4	46.4
Higher Secondary	-2.84	1.23	-1.07	24.67	26.8	36
University	-	2.8	-	20.44	55.7	36.3

Source: calculated from the regression results; # - Regression coefficient insignificant.

Prevalence of poor returns to education, especially to higher education, in a sector that readily offers employment, will deter students from opting for higher education. In the long run, it is detrimental for the sector and the economy. Controlling employment in informal sector is necessary for its own benefit.

Returns to higher education for regular workers in organised sector are higher in the rural regions, though there is minor glitch in returns to higher secondary levels. Returns to education for casual and regular workers in urban regions are presented in table 4.9. Returns are found to be lower for in casual employment and for those employed in primary sector. The returns are very high for those in regular employment and even here, the primary sector provides low returns. Returns to higher education in casual employment are usually lower except for those employed in tertiary sector.

Table 4.9 Rates of Return to Education for Casual and Regular Workers across Sectors in Urban India

Level of Education	Casual Workers			Regular Workers		
	Primary Sector	Secondary sector	Tertiary Sector	Primary sector	Secondary sector	Tertiary sector
Primary	2.10	2.7	5.06	-	3.75	5.06
Middle	2.08	2.58	4.49	-	9.45	4.49
Secondary	9.33	7.05	8.3	6.46[a]	26.6	8.3
Higher Secondary	-	0.52	8.96	21.54	31	8.96
University	-	1.63	34.5	-8.59	54.2	34.5

Source: calculated from the regression results; a- since the returns to previous levels are insignificant, this return is calculated as ratio between the coefficient for secondary education and years taken to complete it.

As mentioned earlier given the extent and reach of casual labour market, lower returns to higher education in this market might hinder higher education. Returns are negative for the university education for regular workers in the primary sector. Existence very wide gaps between the returns to primary schooling and university education could be attributed to the liberalisation policy and its aftermath where demand of skilled workers increased. Business process outsourcing and the growth of information technology firms might have an influence on this very wide gap between returns to lower and upper levels of educations (Dutta, 2004).

4.8 Summary and Conclusion

The regression results show a clear regional and gender disparities in returns. Also, caste disparity is noticed in primary sector employment. The regional and gender disparities owe the reason, to a certain extent, to disparities seen in educational sector. Therefore, the policies aimed at removing them should start with appropriate educational policy response. For the caste based disparity noticed, the social notion about caste hierarchies should be removed, which is a very difficult task to achieve.

However, equitable educational supply and economic growth will ensure the fall of caste hierarchies. The government should ensure the recommended minimum wages are provided in primary sector. As the primary sector is affected by the vagaries of monsoon, there are several lean periods in rural employment. Rural Employment Guarantee Act was recently passed by the Indian government, which guarantees minimum of 100 days of work for rural workers. At the current wage rate, it would cost 1.7% of GDP and the successful implementation of the act would help to reduce rural poverty rate by 23% (Murgal and Ravallion, 2005). This obligation on the part of the state provides a bargaining power to the rural labourers. In addition, it will help to create gender equity and an equitable social order (Dreze, 2004).

The estimated rates of returns not only help to understand the returns to a particular level of education, but it also helps to study how the returns differ between different sectors. From the above results, it is clear that there exist very low returns in casual labour market especially in the rural regions. In addition, the returns to employment in primary sector is lower capturing the fact that higher education plays little role in this sector. As most of the farmers are small landowners and almost all agricultural operations performed are manual in nature that does not require skills imparted by formal higher education, returns to higher education in this sector are lower. Another limitation is that persons with higher education are limited in this sector as better-educated persons do not prefer to be employed in primary sector. However, increased education of farmers is shown to improve gross output of the nation (Duraisamy, 1992).

Existence of negative returns is a signal that both the educational and employment policies are not successful in the rural regions. It is clear that these policies in rural regions require an urgent revamp. About 73 % of the population live and work in rural

India. Reports by Planning Commission of India note that agriculture has lost its potential of employing more and more people in rural areas. There are also reports of casualisation of agricultural labour where marginal and landless labourers are falling into the ranks of casual wage labourers, as there are not many potential employment providers in rural areas. Such a situation might also pull children from poorer families into the labour market. Diversification of the rural labour market by promotion of rural non-farm employment will be a remedy. Diversification is crucial in increasing employment opportunities and promoting higher education in rural India. However, for the poor to access this sector higher education might be required, for which quantity and quality of education rural regions needs be improved. Increase in the rural non farm employment will also increase the agricultural wages thereby helping the rural poor (Lanjouw and Shariff, 2004).

Very low returns to elementary education indicate the failing quality of schooling. Urgent measures are needed to improve it especially in the rural regions. Higher secondary level is the final level of schooling and marks obtained the final exam, which is usually statewide or countrywide, decides entry into universities. Rural students already face the hindrance of inaccessible schools. Urban students on the other hand have an advantage of widely prevalent private coaching institutes in urban regions all over India. These coaching institutes prepare students for the final school exams and also for the entrance exams conducted by universities and affiliated colleges. Lack of such coaching institutes is a huge drawback for rural students and they compete with urban students who have an unfair advantage over them. This squarely diminishes their chances of entering universities and courses of their choice. This in turn dilutes the education output from rural regions. In the state of Tamil Nadu, the state government abolished the entrance exams for admission in

professional courses citing the above reason (Government of Tamil Nadu, 2005) and admission is based only on the final school examination marks. This should be extrapolated to normal university stream wherever applicable and also to other states. Lack of information about educational opportunities in the rural areas is another impediment. Well-organised network of educational institutions, enabling percolation of education information down to rural schools is essential to increase the admission of rural students into elitist institutions. Higher returns to university education signal that there is room for profitable public and private financing in this level. Credit availability is also crucial in promoting higher education.

Informal labour markets require some form of government intervention to make it more profitable for the casual workers. Returns to education are very poor in this sector and this might negatively influence the choice of educational levels chosen. Though direct intervention of government in the casual labour market would not be desirable, it can play a role of facilitator to ensure decent wages. Higher wages in this sector would enhance competitiveness, output and better quality of living for casual workers.

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4.10 Appendix

Table A. 4.1 Results of Logistic Regression

Variable	B	Standard error	Wald statistic	Significance	Exp(B)
Years of Schooling	0.069	0.001	7197.34	0.000	1.071
Experience	0.031	0.000	26168.58	0.000	1.032
Dummy for backward caste	0.758	0.008	8574.99	0.000	2.135
Dummy for land cultivated	-0.926	0.008	13576.08	0.000	0.396
Dummy for Women	-1.223	0.008	22075.796	0.000	0.294
Constant	-1.921	0.009	43140.208	0.000	0.146
-2 Log likelihood					464283.483
Cox and Snell R^2					0.119
Nagelkerke R^2					0.200

5 Cost - Benefit Analysis of Eliminating Child Labour

The complete elimination of child labour in India and sending all the 'out of school' children back to school is an enormous task. For the government, it involves huge investment and stringent implementation of child labour laws. Huge financial investment is also required to strengthen the educational supply and for providing incentive to children for attending schools. Considering the future benefits the nation will derive, such a mission is worth undertaking.

For the individual families, sending children back to school would mean that they are cutting a vital supply of income. Though meagre, the child's wages adds up to the family's income. The elder children's wages might be spent for educating their younger siblings. Sending children to school also increase the expenditure of the family. Without providing adequate incentives, strict implementation of universal schooling policy might bring all the children in the family to the school but on the other hand would push the family into brink of existence. Therefore, provision of incentives for attending schools and noon meal scheme in schools is crucial for retaining children in schools. The benefits accrued by the family in the long run, are large as education breaks the 'child labour trap' and brings the family into a path of development. Education plays a crucial role in development as studies show that educating a single generation of children will increase the educational levels in the forthcoming generations. Thus, vicious cycles of child labour and poverty would cease with the current generation.

This study aims to estimate the financial costs and benefits of getting all 'out of school' children in India into schools. A project to bring all children to school of school going age to school is in operation in India, but only in select districts. It should be spread to all districts in all Indian states. This analysis would help by

providing an insight into the costs of such an exercise. The objective of this study is very specific; it aims to study the economic feasibility of such a project, the cost of its different components and their respective benefits. In the first part of the study, the Indian government's costs and benefits of educating all children out of school is studied. In the second half, estimation of private costs and benefits of schooling are presented.

5.1 Previous Study

ILO (2003), a global analysis of costs and benefits of educating world's out of school children inspired this study. The study found that there is a net economic benefit in elimination of child labour and replacement in elementary education globally. Individual cost and benefit components were studied across nations. The study attempts to expose the fact that such an exercise would be feasible. In the same study, country-specific costs and benefits were analysed for Brazil, Kenya and Nepal. Nepal is a country with similar social set up like India. The net economic benefits were found to be positive though the financial benefits were negative. However, the Mincerian coefficient used was lower than global average and such a study cannot be extrapolated to India, since Mincerian coefficient and returns to education are different in India.

5.2 Methodology

Cost Benefit Analysis (CBA) is employed here to estimate the costs and benefits of eliminating child labour and educating them. Cost Benefit Analysis is an important decision making tool in project planning. In the analysis, different costs involved in the project and future benefits to be accrued are calculated. The future costs and

benefits are discounted to present values and net current benefits are obtained. The net current benefits give a clear view about the economic feasibility of the project and based on it, a decision could be made on whether the project could proceed to next step.

5.3 Costs and Benefits of Education

The costs and benefits of education could be divided in to private and public costs and benefits. The primary private cost is the opportunity cost of time spent in schools. It can be indirectly measured by the value of child labour or the wages received by the child labour. Another indirect cost is the disutility of the child, when the child is not interested in attending school, which is difficult to measure and therefore not included here. The private benefits are higher wages after completing education. Another indirect benefit derived is better health, after quitting labour for education. Many child labourers work under poor working conditions, affecting their health in many ways. Leading a normal childhood helps in better mental, physical and cognitive development. In the long run, indirectly, because of higher wages, the standard of living of the family is improved and so is the social status. Class change often breaks the caste-based discrimination. Fertility rates also fall down with higher education, which has an indirect role in curbing child labour.

The public costs are primarily the cost of educational expenditure. To accommodate higher of number children in the schools the state would have spend to improve the quantity and quality of schools. Particularly in rural India, both quantity and quality of schools are of serious concern. Table 5.1 presents certain quantity and quality aspects of schools in India. It clearly indicates the need for upheaval of the system to accommodate higher number of children. If the quality is poor then increased

enrolment is of no use, as it would result in increased dropout rates. Dropout rates in middle schools are already over 50%, suggesting that higher enrolments without improving quality would be worthless. The public expenditure on education (regional and central governments together) has been hovering around 2.8 % of GDP in recent years, significantly lower than the central government's own target of 6%.

Table 5.1 Select Quality and Quantity Indicators of Education in India

Indicator	
Schools/Village	1.15
Children/Village	242.00
Gross Enrolment Ratio	96.00
Net Enrolment Ratio	73.00
Gender Parity Index	0.89
Student Classroom Ratio	39.00
Pupil Teacher Ratio	36.00
Dropout rate primary	39.00
Dropout rate middle	54.60
Expenditure in education as % GDP (2006-07)	2.87

Source: Mehta (2006) and Government of India (2007).

Household income transfer programmes will also be required to ensure that children do not start working again. Costs also include expenses toward rehabilitating children who had been working under hazardous conditions. Such children require special counselling and training before they are sent to schools. The social benefits from education are primarily having an educated work force that would improve the nation's productivity and lead the country into a higher growth path. Another important indirect benefit of schooling is that it produces responsible citizens who are

politically aware thereby influencing the country's social and economic well being indirectly.

5.4 Data

Data used in this study are collected from various sources. The data from Census of India which is conducted every ten years, 55th National Sample Survey (NSS) on employment and unemployment from the year 1999-2000, reports from various rounds of NSS on employment and unemployment, household expenditure and indebtedness and Cost and nature of attending educational institutions, recent economic surveys from the Ministry of Finance and reports from Ministry of Human Resource Development were used in this study.

Indian government defines economically active children below the age of 14 as child labour. Six, is the official age of children to enrol in schools. For the study, we consider children in the age group of 6 to 13 years, the age of elementary school attending children. Differences exist between child labour statistics provided by agencies within Indian government. Here in this study, data from census of India is employed. Census data points out that, of 200 million children in the age group of 6-13 years, nearly 59 million are out of school and of them 35 million children are girls (Census of India, 2001).

5.5 Cost Benefit Analysis of Education for the Government

The process of total elimination of child labour and their subsequent schooling is assumed to be implemented in waves. Each wave lasts for 5 years and the first wave begins in 2005. The fourth and final wave starts in 2020. The children out of school include child labourers and they are 58.02 million in number. They are studied as two

age groups, the younger age group comprises children in the age of 6-10 years and who ought to be attending primary school. These children are 42.22 million in number. The elder age group includes children in the ages 11-13 years, who ought to be attending middle or upper primary school. There are 15.8 million children in this age group out of school.

Certain assumptions are made for the ease of study. They include,

- Child labourers are involved in full time work and they do not combine child work and schooling.
- It is assumed that average number of working days in a year for children is 100.
- Children, who were formerly child labourers are assumed to be studying in Government or local bodies' schools, and they are provided with an incentive to attend schools.
- For the sake of simplicity, it is assumed that all children from 6- 10 years old are assumed to be 6 years old and all the 11-13 years old are assumed to be 11 years old when they start schooling.
- After completing upper primary education erstwhile out of school children start working at the age of 14 years or immediately after finishing middle school.
- The project of sending all out of children to school is assumed to happen in four waves, each wave lasting five years. The first wave is assumed to start in 2005.

Formulae employed for discounting are

$$a= (1/1+r)$$

Present value of cost or benefit in wave 1,

$$x = x\ (1-a^5)/\ (1-a)$$

$$\text{wave2} \rightarrow x= xa^5(1-a^5)/(1-a)$$

$$\text{wave3} \rightarrow x = xa^{10}(1-a^5)/(1-a)$$

$$\text{wave4} \rightarrow x = xa^{15}(1-a^5)/(1-a)$$

For each wave, the discount rates (r) used were 2, 4, 5 and 6 percent respectively (ILO 2003).

5.5.1 Costs Components

5.5.1.1 Cost of Achieving 100% Enrolment

This is the cost of sending all 'out of school' children, which includes child labourers, and inactive children to schools. It is assumed to happen in three waves, first wave beginning in the year 2005. In each wave, one-third of children in each age group, enter primary school. The children in the elder age group are assumed to study only until primary school, as they are soon old enough to work legally. The children from the younger age group are assumed to study until middle school (8 years in total) before entering labour market. The additional expenditure for the government as a result this increased enrolment is calculated as,

Number of children out of school * Expenditure per pupil

Expenditure per pupil in primary school in India was 368 US$ (PPP) and for middle school it is calculated as 375 US$ (PPP) (UNESCO, 2005). The total discounted cost for all the three waves for both the age groups was calculated to be 54.39 billions US$ (PPP).

5.5.1.2 Cost of Intervention

Many of the child labourers are working in industries, which are branded as hazardous. It is the cost for elimination of worst forms of child labour. Intervention cost is the cost of withdrawing children from working and preventing them from working in hazardous industries. The cost includes, counselling, training and the operational cost of such project. It was estimated that there are 15.71 million children

working in hazardous conditions in India (Global March, 2005). The median cost of intervention in India, worked out by an ILO study was 120 US$ (PPP) (Ueda, 2002). This is assumed to be achieved in two waves, starting in 2005. It is calculated as,

Number of children in worst forms * Unit cost of intervention.

The total cost of eliminating worst forms of child labour was calculated to be 0.812 billion US$ (PPP).

5.5.1.3 Income Transfer Programme

Government of India has an ongoing programme providing incentive for child labourers entering school and the incentive is equivalent to 10.62 US$ (PPP) per child per month. It is assumed that every 'out of school' child entering the school would receive this amount, as many inactive children do not attend schools due to financial reasons. Similar to the enrolment cost, this cost is also spread in three waves. It is calculated as,

Number of children * Incentive per child per month * 12 * Number years in school.

The present value of such a cost was calculated to be 13.54 billion US$ (PPP). It is assumed as a financial cost as government directly provide the incentives.

5.5.1.4 Value of Child Labour

Value of child labour is calculated as proxy for opportunity cost of schooling. It is assumed that only child labour is opportunity cost of time in school. It was calculated as,

Number of children * Average wage of age group * 100 days * Years spent in school

The average wage of child labourers in the age group, 6-10years is 2.29 US$ (PPP) and 2.91 US$ (PPP) from child labourers in the age group 11-13years. The total opportunity cost in present value was calculated to be 25.43 billion US$ (PPP)

5.5.1.5 Gap in Educational Expenditure

There are other factors involved like quality up-gradation of schools and gender parity requirements. However, they could not be calculated because of lack of data. To make up for this discrepancy, the gap in educational expenditure was calculated. According to a report by the Government of India, expenditure on education should be 6% of GDP and 50% of it should be spent on Elementary Education. However, currently, it is only around 3%. By increasing it to the preferred 6% of GDP, the extra 3% of GDP could be used for quantity and quality improvement. The GDP is assumed to grow by 9% and 3% of GDP, as expenditure on elementary education would be achieved in wave two. The total present value of additional expenditure to be made in elementary education for 10 years was estimated to be 87.53 billion US$ (PPP). This would make up for all further quality and quantity improvements required in elementary education.

5.5.1.6 Other Quality Improvement Costs

ILO (2003) recommends that pupil-teacher ratio (PTR) should be a maximum of 40. If higher, costs should be calculated to achieve this value. However, in India, PTR is 36. In addition, it is recommended that non-salary recurrent costs in educational expenditure should be a minimum of 15%. Cost structure of Universal Elementary Education Programme shows that these costs are higher than 15% of the total recurrent costs. So, both of these costs were not calculated. Here, non-salary recurrent

costs in educational expenditure by state governments could not be obtained. Only to mitigate this drawback, the additional educational expenditure was calculated.

The table 5.1 presents all the cost components of the analysis. The total cost in present value was calculated to be nearly 133 US$ (PPP).

Table 5.2 Total Costs of Eliminating Child Labour

Nature of Cost	**Cost** (in billion US$ PPP)
Cost of achieving 100% enrolment	**5.45**
Cost of intervention	**0.81**
Income transfer programme	**13.54**
Value of child labour	**25.43**
Gap in educational expenditure	**87.53**
Total	**132.74**

Source: Own calculations.

5.5.2 Benefits from Increased Education

5.5.2.1 Benefits from Increased Future Earnings

As the children are enrolled in different waves, the benefits start to grow from the end of wave 1. By the end of wave 1, one-third of children of age, 11-13 years who enrolled into primary school are out of primary school. By the end of wave-two, one-third children of age 6-10 years who enrolled into primary school in the wave 1 would have completed upper primary school. Another one-third of children in the age group 11-13 years who were enrolled in wave two into primary school would be out of primary school.

By the end of wave 3, one- third children of age 6-10 who enrolled into primary school in the wave 2 have completed upper primary school. Another one-third in the ages 11-13 years who were enrolled in wave 3 into primary school is out of primary school. At the end of wave-4, one-third of children in the age group 6-10 years who were enrolled in primary school in the beginning of wave3 would have completed

primary school. The average life expectancy of Indians is 64 years. After entering the labour market in 14 years, they are assumed to work until 60 years i.e., the benefits are distributed over 46 years.

Present value of benefits as a result increased education is calculated as,

Number of children*Mincerian coefficient of that level of education*Number of years that takes complete that level*Average unskilled adult wage*12*Present value of future earnings stream.

The Mincerian coefficient for primary school education at All India level was 0.22 and for middle schools, it was 0.42. The average unskilled adult wage in India was 465.79 US$ (PPP) calculated from NSS 55th survey data. The present value of benefits of educating 58.02 million children, which includes their future lifetime earnings is 1771 billion US$ (PPP).

5.5.2.2 Health Benefits

Health benefits of not working could be studied by Disability Adjusted Life Years (DALYs) regained as a result of not being a child labourer. It is the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability. DALYs are regained because of not working and as a result of higher education. Occupational injuries are very common in workplaces, especially when the workplace does not conform to the required health standards. Conditions in which children work are often poorly lit and poorly ventilated. When they lack dexterity in performing manual tasks, they are more prone to injuries. When they ceased to be working and they are at schools, the DALYs they regain are bound to increase. Using data from Fasso (2003), total amount of DALYs regained was calculated. For every occupation DALYs regained varies. As presented in table 5.2, DALYs regained where

calculated for children in various occupations. One DALY regained is equivalent to 40% of per capita income (ILO, 2003).

Table 5.3 DALYs regained by stopping Child Labour in Various Sectors in India

Sector	Child labour (%)	Child labour (number)	DALY/100	Total DALY
Agriculture	55.7	7055172	1.514	106815.3
Mining	0.9	113997.4	2.669	3042.59
Manufacturing	12.55	1589630	0.421	6692.344
Construction	3.84	486388.9	1.3879	6750.591
Retail	10.02	1269171	1.217	15445.81
Services	16.99	2152017	0.477	10265.12
Total	100	12666377		149011.8
Monetary Value of DALY regained (in US$ PPP)				220537464

Source: Own calculations using DALY data from Fasso (2003).

Total DALYs regained as result of not working was calculated to be 149011.8. It is calculated that one DALY is valued as 40% of per capita income (ILO, 2003), which is 1480 US$ (PPP) in India in the year 2005. The total monetary benefit obtained as a result of not employing child labour is 0.22 billion US$ (PPP).

There are also health benefits because of higher education. Higher education improves the awareness about cleanliness and the personal hygiene. DALY reduction as result of improved education (100 % enrolment) in lower primary level is 18 per 1000 Persons and 47 per 1000 persons in upper primary level. The present value of monetary value of DALYs regained was calculated to be 902537.7 US$ (PPP).

Table 5.4 Total Benefit of Eliminating Child Labour

Nature of Benefit	**Value** (in Billion US$ PPP)
Educational Benefit	1771.23
Health Benefits	0.22
Total Benefits	**1771.45**

Source: Own calculations

The total benefits, sum of educational and health benefits are to a tune of 1771 billion US$(PPP). It includes present value of future lifetime earnings of nearly 58 million children. The net benefits achieved was calculated for each individual wave and was found to be positive for each wave and in the final fourth wave there are no cost involved at all.

Table 5.5 Net Benefit by Wave (in billion US$ PPP)

Wave	Cost	Benefit	Net Benefit
1	19.17	108.93	89.76
2	102.70	766.83	664.13
3	10.87	562.38	551.51
4	-	333.31	333.31
Total	**132.74**	**1771.45**	**1638.71**

Source: Own calculations.

The net economic benefit for the government will be nearly 1652 US$ (PPP). The net financial benefit to be accrued by the Indian government for undertaking such a project would be to a tune of 1639 billion US$ (PPP). It is 48.33 % of annual GDP of India, in the year 2004. These values are higher compared to those calculated by ILO (2003) for the Asian region since the Mincerian coefficients used here are higher than that used in the ILO study.

Table 5.6 Net Economic and Financial Benefit for India

Cost / Benefit	**Value** (in billion US$ PPP)
Cost of increased education	5.44
Intervention cost	0.812
Opportunity cost	25.43
GDP gap in educational expenditure	87.53
Total cost	**119.212**
Educational benefit	1771.23
Health benefit	0.22
Total benefit	**1771.45**
Net economic benefit	**1652.238**
Cost Income Transfer	13.54
Net financial benefit	**1638.698**

Source: Own calculations.

5.6 Private Cost Benefit Analysis of Child Labour and Schooling

Similar to the previous study here also the children are studied as two groups. The first group are in the age of 6-10 years. They study the entire 8 years of elementary education. The second group of children in the age group of 11-13 years are assumed to finish primary school, as they are old enough for legal work. The assumptions made for the previous analysis also holds here.

The private cost is the value of child labour or the wages lost during the time the child attends school. It is calculated as,

Number of years in school * Daily wage * Annual number of days the children work

It is calculated for both the age groups. The results are presented in table 5.5. For children in the age group 6-10 years, the opportunity cost is calculated to be 1832

US$ (PPP). For the higher age group it is 1455 US$ (PPP). It is lower for the higher age group since they spend lesser time in school.

The present value of future earnings with schooling is calculated as,

Monthly average unskilled adult wage * 12 * Present value of future earnings stream

The earnings are calculated only for their legal work, which is from the age 14. Considering the average life expectancy for Indians, which is 64 years, they are assumed to work their entire lifespan, for 50 years. However, this work span is a conservative forecast if we consider that life expectancy is increasing The present value of the children's lifetime earnings is, 105138 US$ (PPP).

If the children were sent to school instead, then the present value of their future earnings would be,

Monthly average unskilled adult wage * 12 * Present value of future earnings stream * Years taken to complete education * Mincerian coefficient for that level

The Mincerian coefficients for all India level used are from chapter 4. Children in the age group 6-10 years are assumed to study elementary education (8 years), their lifetime earnings are calculated to be, 342747 US$ (PPP). Children in the age group of 11- 13 years are assumed to complete only primary education. Their future earnings in present values are 112209 US$ (PPP). The difference in earnings between uneducated adult and primary school educated adult is lower compared to the difference in earnings between primary school educated and middle school educated.

Table 5.7 Private Cost and Benefits of Education (in US$PPP)

Age Group	Years of Education	Opportunity cost of schooling (a)	Future earnings without education (b)	Future earnings with education (c)	Net Benefit (c-a)
6-10 years	8 (Middle School)	1832	105138	342747	340915
11-13 years	5 (Primary School)	1455	105138	112209	110754

Source: Own calculations.

The positive net benefit clearly shows that the future monetary benefits should be an incentive for educating children. In this study only monetary benefits are calculated but there are health benefits and other positive externalities of education on the family on which are not calculated here.

In table 5.6, a comparison between future earnings without and with education for rural and urban India is presented. The type of employment in the regions is divided into primary sector and other sectors in rural region and as casual workers and regular workers in urban regions.

Table 5.8 Private Benefits to Education in Rural and Urban India (in US$PPP)

	Rural		Urban	
	Primary Sector	**Other Sectors**	**Casual Workers**	**Regular Workers**
Future Earnings Without Education	20910	65891	33186	106088
Future Earnings with Elementary Education	50315	158542	79850	255266

Source: Own calculations.

The person is assumed to study until elementary school and his/her present value of future wages are compared between present value of future earnings of an uneducated

wage earner in the same occupation. In all the cases, educated person's wages are higher than uneducated person's wages.

Benefits accrued by a person by getting educated are higher in the long run, even though it is until elementary school. However, many families are not in a position to think about their long term prospects when their immediate subsistence is under question. Government should also undertake a publicity campaign on benefits of getting educated especially in regions prone to child labour.

5.7 Conclusion

In this analysis, there are indeed some gaps since many assumptions were made. However, the primary aim is to demonstrate that such a project would be within the reach of Indian government. For the private individual, it is reassured that education would yield benefits in the longer run. Economic benefits studied here are just a part of larger social benefits. There are larger positive externalities to eradication of child labour and getting children educated. Here in the analysis Mincerian coefficient from all India results were used. The study could also be broadened by including regional analysis for economic feasibility in the different states of India.

5.8 References

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6 Child Labour in Carpet Industry - A Review

Child labour is prevalent among many sectors across rural and urban India, predominantly in rural regions and in unorganised sector. In addition, child labour is common in industries that are traditional to certain regions in India. Notably, Fireworks industry in Sivakasi, Tamil Nadu, glass and bangle industry in Firozabad in Uttar Pradesh, Brass industry in Moradabad, Lock making industry in Aligarh, Foot wear industries in Karnataka, silkworm rearing and silk thread industry in Karnataka, Diamond and gemstone polishing industry in Jaipur in Rajasthan, Slate mining and making industry in Markappur in Andhra Pradesh and Carpet industry in Uttar Pradesh to name a few. All these industries are well established in the respective regions and are easily recognisable by region's name. They also happen to be the major employers in these regions. Many of them are also export oriented. These industries are target of frequent criticisms on their loose employment strategies. It is common that the whole family work in these industries. They usually get orders from contractors and the work is primarily done in their homes wherever possible. In such cases, children stay at home and work together with their parents.

This chapter describes one such industry, carpet industry in Uttar Pradesh. To understand the issue of child labour in this region better, characteristics of Uttar Pradesh are also discussed. Further recent developments in the sector are discussed. As many projects were implemented by the Indian Government and International organisations in this region, looking at the projects' progress and child labour situation would help in tackling the issue of child labour in other regions in a better way. The carpet sector is specifically chosen for study here for various reasons. The first reason is its location in the state of Uttar Pradesh on border with another state Bihar, both of which are impoverished states with an ample supply of unskilled

labourers. Forced labour, including child labour is common in carpet industry and so is migrant labour from the neighbouring state of Bihar. It is an export-driven industry with strong presence in the local economy and local labour market is strongly dependent on child labour. Presence of NGOs and constant focus on child labour issues has helped in bringing forth initiatives like carpet labelling, school for working children etc.

Carpet industry in India is an age-old industry originating during the Mughal rule in northern India. It has enjoyed export led growth because of the popularity of handmade Indian carpets in the developed countries. USA and Europe are the major importers of Indian carpets. Floor covering and rugs exports happen to be one of the major foreign exchange earners for the Indian government thereby policies influencing the carpet industry are subject to intense scrutiny. The share of Indian exports in the global hand knotted carpet exports is around 16 %. About 70 % of the carpets annually produced in India originate from the carpet belt region (Vijayagopalan, 1993). This region includes Bhadogi, Mirzapur and Varanasi districts in Uttar Pradesh. Presence of carpet industry in Uttar Pradesh is not just due to historic reasons but also due to the ample supply of unskilled labourers in this region. Carpet industry was one of the earliest targets against child labour. Child labor Deterrence Act, also known as Harkin's bill, aimed at prohibiting import of all goods produced with the use of child labour into US was introduced in the US senate four times and it includes civil and criminal penalties for violators. One of the goods that were included in the bill was carpets. This bill invoked immediate response from the governments in countries with child labour incidence. However, the bill is yet to be passed. In addition, there was the focus of international media over carpet industry in South Asia. This also demanded immediate action from the respective governments.

Carpet weaving is one of the processes mentioned by the Child labour Prohibition and Regulation Act passed by the Indian Government in the year 1986. However, the act was not strictly implemented by most state governments and child labour was still widely prevalent in most states in India.

Child labour in the carpet industry was also strongly condemned by the Indian Judiciary in a judgement in 1996. The Supreme Court of India in a historical judgment in 1996 on the child labour in the matches and fireworks industries criticised the central and state governments for their negligence in curbing child labour. It also mentioned regions and sectors where child labour was proliferating including in the carpet belt region in the state of Uttar Pradesh. As the judiciary stands above legislative and executive branches of the Indian government, the criticism brought forth immediate action. This historic judgment and the Harkin's bill brought the plight of child labour in carpet industry under scrutiny.

6.1 Socio-Economic Characteristics of Uttar Pradesh

Located in the rich Indo-Gangetic plains, the state of Uttar Pradesh is one of the largest and most populated states in India. It is a politically powerful state because of its population and its size, but its political power has not translated into growth and development as poverty is wide spread in this state. In 1998, about 8% of the world's poor were living in Uttar Pradesh alone. The table 6.1 presents select characteristics of Uttar Pradesh. The demographic and educational characteristics show that Uttar Pradesh has performed rather poorly in them. It lags behind most Indian states in terms of development. The sex ratio is skewed showing that families, in accordance with broader Indian social perspective, do not prefer girl children. It is still a predominantly rural state with lower than national average literacy rates. Female

literacy rates are lower and so are the numbers of schools in the state. Agriculture is the major sector in Uttar Pradesh. The state is ranked as one of the lowest in terms of presence of manufacturing, services and Fast Moving Consumer Goods (FMCG) industry.

Table 6.1 Select Characteristics of Uttar Pradesh

Poverty incidence (% households)	39.1
Sex ratio (females/1000males)	898
Urbanisation (%)	20.98
Adult literacy rate (%)	57.36
Female literacy rate (%)	42.98
Number of primary schools per 100000 persons	42.1
Number of middle schools per 100000 persons	17.1
Accessibility to Schools (primary school) (% population) (up to 0.5 km)	73.15
Accessibility to Schools (middle school) (% population) (up to 1 km)	43.85
Adult unemployment (as a % of labour force)	1.4
Rank in manufacturing, services and FMCG (out of 17 states)[a]	16

Source: Aggarwal (2004); a- World Bank (2002).

Child labour is widely prevalent in agriculture and other industries in Uttar Pradesh. As in many Indian states, children are still working in many hazardous industries where child labour is banned. In table 6.2, statistics on child labour in certain hazardous industries in Uttar Pradesh is presented. About 17 % and 6% of child labour in hazardous industries in rural and urban Uttar Pradesh respectively are employed in carpet industries. However, there are higher numbers of children working in other hazardous industries that are not widely reported in international media. A substantial number of children are working in cigar industries in rural and

urban regions. Making glass bangles is also a dangerous occupation for children and 4.24% of child labour in hazardous industries are employed in this industry.

Table 6.2 Child Labour in Hazardous Occupations in Uttar Pradesh

Industry	Rural	Urban
Cigar	36.70	53.26
Silk thread	38.90	6.51
Lock making	-	11.60
Brick laying	8.92	5.88
Glass bangles	-	4.24
Carpets	16.19	5.9
Footwear	-	12.61
Total	100	100

Source: Aggarwal (2004).

Except carpets, all the other industries trade their products in the domestic market and as a result, the plight of children working in these industries are under reported or not reported at all. There is nearly no NGO activities reported so far in these sectors.

6.2 Operation of Carpet Industry

The marketing channel of the carpet industry is complex involving many agents and therefore it is difficult for importers to monitor whether the carpets imported are free from child labour. Contractors and subcontractors get orders from exporters and supply them to small enterprises and carpet knotting families. Enterprises directly outsource orders to family looms. Carpet industry has a large number of family based units, where work is done primarily at home after getting contracts locally. The structure of carpet industry is informally arranged which helps them to evade labour laws (Beckmann, 1999).

In many homes, looms occupy the entire living space. The entire family works on the obtained carpet contracts since the process of carpet weaving (knotting) is extremely

labour intensive. The family based units are difficult to monitor as parents often deny that their children work in the looms. Apart from family units, there are also enterprises where many looms are operated. In such enterprises, hired child labourers, hired adult labourers, bonded family labour (including the children in the family) and bonded child labour is prevalent. Among them bonded child labourers' condition is the worst. Either they are sent to work to repay a sum that their parents owe or they are sold by their parents for a certain sum of money to work for a specified time. The contracts made with the parents are informal and many children work longer than they are supposed to be. They are often denied their meagre wages as the looms owners call it 'training period'. Bonded children live and work in the same premises. They are often malnourished and physically punished for their slightest negligence. This practice can be aptly termed as modern day slavery and needs to be abolished on humanitarian concerns. Half of the cases registered so far in India on bonded labour are in Uttar Pradesh, which indicates the severity of the issue in this state. Distribution of gains from the exports is extremely unequal with loom owners and weavers earning as little as 10% (Ravi, 2001). Lack of implementation of labour laws and lack of labour unions in carpet industry has kept the wages lower.

Negative health effects of working in carpet industry are many ranging from, respiratory trouble because of constant inhalation of cotton and woollen fibres to eyestrain because of doing fine knotting work under ill illuminated working conditions. In addition, normal physical development is affected because of sitting in the same position for hours together. These effects may worsen with time.

Table 6.3 Percentage Child Labour in Carpet Enterprises

Number of looms in enterprise	Average percent child labour (in enterprise)		Enterprises with 33.3+% child labour (%)		Enterprises with any child labour (%)		Total
	a	b	a	b	a	b	
1	12.4	14.2	12.7	14.2	41.0	47.8	134
2	18.9	23.5	15.7	18.5	71.3	83.3	108
3	22.0	27.0	26.4	31.9	88.9	94.4	72
4	20.2	28.1	22.7	36.4	90.9	95.5	22
5+	26.6	33.4	30.8	46.2	96.2	96.2	26
Average (unweighted)	17.8	21.8	18.2	22.7	66.6	74.0	

Source: Levison et al (2000).Child definition (a) includes all "definitely child" observations plus 75 percent of "probably child" observations. Child definition (b) includes all "definitely child" observations plus 75 percent of "probably child" observations plus 50 percent of absent workers.

The table 6.3 presents a brief overview on the extent of child labour in private enterprises. In a survey conducted by an ILO study on child labour in carpet industries (Levison et al, 2000), it was found that, as the size of the carpet enterprises increased so did the number of child labourers working in them. When the enterprises were divided according to the number of child labourer working in them as, those that employed 33.3% or more child labourers and those with any number of child labourers, in both the cases the child labour incidence increased with loom numbers.

6.3 Labelling in the Carpet Industry

Because of intensive scrutiny by various sources, the Child Labour Prevention Act was strongly enforced in the carpet belt region. Many initiatives were begun by various organisations to contain the child labour problem. Monitoring for the carpet producing enterprises for child labour and labelling the carpets as ‘child labour free’ is one such initiative in the carpet belt region. The idea of labelling products child

labour free was put forward by South Asian Coalition on Child Servitude (SACCS) and the German organisation 'Bread for the World'. Now there are many such initiatives in operation: Rugmark, Kaleen, STEP, Care and Fair to name a few.

The labels are based on careful balancing between economic interest of the Indian carpet industry and moral concerns about child labour and their education. All of these labelling initiatives are voluntary. The labelling agencies advise their member-producers to register with them and follow the agency's code of conduct. Regular monitoring is conducted and the label assures the importers and consumers that the final product is free of child labour. Multiplicity of labels and lack of transparency in the procedure for labelling has received some harsh reviews.

Of the above-cited labels, Rugmark and Kaleen labels have achieved credibility in the west. Rugmark is an initiative by UNICEF and Indo-German Export Promotion Project. Rugmark operates in the carpet weaving regions of India, Nepal and Pakistan. As on 2001, less than 30% of carpet exports to Germany had Rugmark labels. Rugmark foundation offers schooling for children through Rugmark schools and has implemented adult literacy programme. Success of Rugmark is limited since it is often viewed as a 'foreign' initiative. In addition, several loopholes exist in the project especially in the inspection process of looms.

'Kaleen' is an initiative by the Indian government through the Carpet Export Promotion Council (CEPC). Membership in CEPC is mandatory for all carpet exporters in India but the label is only voluntary. The code of conducts of the council rests the responsibility of not employing child labour on member exporters. CEPC has more than 2300 members and this label has a wider acceptability. CEPC hires service of third party agency to monitor the looms registered for labelling, and the agency's contract is renewable every three years.

STEP is an initiative by Swiss carpet traders and STEP India was established in 1995. STEP offers company certification programme after monitoring them. The certificate issued by STEP is allowed to be used in advertising material etc. IT has also setup various outlets to sell child labour free carpets in Switzerland, Austria and France. Like Rugmark, STEP is involved in various development activities in the carpet belt region. It has also started various carpet weaving training centres for women. The entire STEP programme is funded by STEP foundation, which is in turn funded by many Swiss organisations (STEP, 2007).

Table 6.4 Incidence of Child Labour in Looms Registered for Labelling

Label	Child Labour (%)	Adult Labour (%)
Rugmark	17.91	82.09
Kaleen	16.32	83.68
STEP	7.34	92.66
Exporters' Own Labels	12.68	87.32
Non Labelled	23.92	76.08
Total	19.21	80.79

Source: Sharma (2002).

A Survey conducted by Sharma (2002) presents the incidence of child labour in looms that are registered with various labelling agencies. Registering with a labelling agency does not mean that the looms are producing child labour free carpets as seen from the data. All the looms surveyed had employed child labour. Looms registered with STEP had the lowest incidence of child labour and Rugmark looms had the highest incidence of child labour. However, compared with the non-registered looms, the incidence of child labour in registered looms are lower. In total, incidence of child labour in the looms surveyed was 19.21 %. It clearly shows the failure in monitoring

by the labelling agencies. Assignment of monitoring to third party is one of the reasons for this failure.

6.4 Rehabilitation of Child Labour in the Carpet Industry

According to the ILO study, primary reasons why children are not sent to schools in carpet belt is the tradition of their work, forced to work by contractors and indebtedness. It shows that the demand for child labour is strong in carpet belt region. The children start learning the process of knotting at a younger age as it happens to be an age-old tradition in their families. Concern about the quality of schooling is another issue hindering enrolment. Even if all the child labour were successfully eradicated, 100% enrolment and retention in the schools would not be achieved given the poor quality of schools in the region.

Adult employment is another factor that would influence rehabilitation of working children. Even though the incidence of child labour is high in Uttar Pradesh, adult unemployment is surprisingly lower than the national average. However, agriculture happens to be the predominant occupation in the state and seasonality of agricultural operations results in several lean periods of employment. Moreover, wages received in primary sector are lower. As long as the adult wages are lower than subsistence level, child labour cannot be eradicated successfully. This calls for enforcement of minimum wages prescribed by the government more stringently. In addition, government intervention to regulate wages in casual labour market is needed.

Substitutability between adult and child labour in the carpet industry would be another factor affecting rehabilitation of children. Children and adults perform similar tasks while knotted. However, who produces the fine quality carpets decides their substitutability. It was argued by the producers that child labour is essential as their

nimble fingers are best suited to perform intricate knotting in fine carpets. Levison *et al* (2000) proved that the adult labourers produced fine carpets. There is a direct relationship between child labour and adult employment and wages. Increasing the adult wages would result in the reduction of child labour. However, the wages are lower in carpet belt region and Child labour is cause of and may lead to adult unemployment and low wages (ILO, 1988). It is shown that when child labour is eliminated it leads to adult employment and higher wages (Basu and Van, 1998).

50.9 % of child labourers in this region have migrated from other regions of Uttar Pradesh and 35.2 % from the state of Bihar alone (Vijayagopalan, 1993). Close monitoring by the NGOs, media and labelling agencies has influenced the spreading of carpet industry homesteads to the state of Bihar (Sharma *et al*, 2000).

As a result of strict enforcement of child labour laws in Uttar Pradesh the core carpet belt has experienced two kinds of swift. The carpet industry itself has experienced a shift to neighbouring state of Bihar where the child labour prevention act is not strictly implemented and to other centers of carpet production in other states. Bihar previously was the source of forced child labour on carpet industry in the carpet belt regions. Bihar provides an immediate supply of child labour in lower wages. Other swift is experienced by the child labour itself. Children who were working earlier in the carpet industry are now moving to other forms of employment either as family child labour or hired child labour, either in agriculture or weaving or in roadside hotels and restaurants.

6.5 Conclusion

There are very important lessons to be learnt from the experience in Uttar Pradesh. Firstly, the focus on eradication of child labour in this region has been predominantly

focussing only on the carpet industry. Export demand for the carpets is the reason for this approach. It has led child labour to move to other occupations. However, child labour should be eradicated from all occupations and not just from export driven industries. The shift to other occupations also means that there are not enough safety nets for children who do not want to work.

Because of focus on this region of carpet production, production has partly relocated to the neighbouring state of Bihar. Previously Bihar used to be the source of labour supply to the carpet belt region. Wages are lower in this state and higher is the supply of unskilled adult labourers. The child labour prevention law should be strictly implemented in all the states and occupations and not just where the focus of media is. Monitoring and labelling is so far voluntary and it could be turned into a mandatory procedure for carpet exports. Reduced incidence of child labour in registered looms indicates the partial success of the labelling procedure. Monitoring measure should be tightened to make them more effective. Labelling initiative can be extrapolated to other industries well known for employing child labour. With increased national interest on working children, labels could also be used within India to indicate child labour free products. Demand for child labour free products needs be studied in western countries, as the products free of child labour are priced higher than products produced with child labour.

6.6 References

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7 Conclusions

As a country with huge population of working children, the issue of child labour is of maximum concern in India. Though various measures had been taken by the Indian government to curb this issue, it has not yielded any significant results. One important reason is the mismatch between number of child labourers and the number and reach of the projects aimed at eradicating child labour.

Child labour is included as one of the core labour standards, but child labour's role in competitive advantage of exports was never established. However, the results obtained by this study shows that prevalence of child labour in a country actually diminishes export performance of manufactured goods. Incentive of better export performance would be just another reason why child labour should be eliminated.

Having proved that existence of child labour in a country harms the export interests, the study focussed on the determinants of child labour in India. This study grouped the children into three as children in school, children at work and inactive children. The latter two categories form the 'out of school' children who were studied in comparison with the children in school.

Both family level characteristics and characteristics of the state where they are residing were studied. The results showed that variables representing gender, caste, literacy of their parents, where they are residing (rural or urban), educational quality of the state, family size and HDI rank of the state were all significant. The same variables had a similar relation with working children when studied in comparison with inactive children. India has a long history of caste discrimination and it was seen here in the results how caste still influences the educational status of the child. Other disparities existing in the society; gender and regional; also influence the educational status of children. Most important of the variables is the educational status of the

parents where it was found that increasing the educational level of the parents had a negative impact on child labour and it improved schooling. Having said that literacy is passed through generations, the study focussed on the returns to education across sectors in rural and urban India. The aim was to find out whether returns to education in certain sectors and certain levels of education was poor, as it is proven that poor returns to education is a deterrent to schooling, which promotes early entry into the labour market.

All the previous studies on returns to education have focussed on all India level or rural and urban differences. In this study, the type of work contract (casual or regular) in all the three sectors was used to classify the data. As expected the returns for higher education in casual labour market and in the primary sector was poor. Also in the rural regions returns to higher education was poor. These will certainly serve as discourages confidence on schooling and encourages decision on early entry into labour markets. Deterring child labour is not just dependent on the income growth; but quality of the educational supply also has a role to play. Improving the quality and quantity of education in India is very essential in fighting child labour.

Results from the analyses done show that literacy is an important factor in combating child labour. Literacy helps to break the vicious cycle of poverty and child labour. If literacy in very important, it could be promoted at any cost. One of the major impediments in improving literacy rates is the cost of educating all the out of schoolchildren. Such an exercise involves rehabilitating children, providing income transfers, improving quality and quantity of schooling and also public relations exercise to abolish child labour and promote schooling. Cost and benefits analysis showed that it is indeed feasible for the government to get all children into schools. Such a project would bring the government economic benefits because of the

increased earnings of all erstwhile educationally deprived children. Also for an individual person, the results as expected showed future earnings were higher with education. Such results are expected, education will certainly improve future earnings. However, when the current income is just enough for subsistence, educating children is certainly not an option in poor families. The missing link is availability of credit; the returns to education obtained were positive in most cases indicating that there is room for financing.

7.1 Policy Options

As child labour is closely related to poverty and other social issues, tackling child labour should be a priority agenda for both the state and central governments. Child labour has remained as a part of labour market across many countries at varied times. As history shows, many countries have successfully resolved the issue. Decline of child labour can be caused by increasing returns to education, higher literacy rates, technological growth that reduces demand for unskilled labourers, rise in the wages as a result of technological development. Based the results certain policy suggestions aimed at reducing child labour are drawn.

- Caste, gender and regional inequalities have an impact on the activity status of the child. These inequalities should be addressed in the educational policy itself, so that the benefits of education are transferred to the next generation by helping to break the vicious cycle of child labour and poverty and remove the existing inequalities.
- Adult literacy programmes should be implemented with more vigour. Higher adult literacy has a direct positive effect on schooling and indirect effect on child labour through reduction in fertility rates. Removing gender disparity in education is essential. Higher female literacy has higher positive impact on child labour than male literacy.
- More incentives for families under the poverty line to send their children to school are required. Noon meal scheme for children studying in government schools have been proving successful not just in fighting child labour but also in helping children to get nutritious meals. Though Noon meal scheme is implemented in many states, it is not universal in all schools. It should be implemented universally in states and public schools.
- Credit market regulation is crucial to prevent children from entering the labour market and to finance their higher studies. Accessible credit markets can break the association between poor income and child labour and the child labour trap. It will also promote higher education. Presence of positive returns to university education points out that there is room for private financing. State should also bear the burden of financing higher education.
- Non-formal stream of education might be introduced for current child labourers, as a short-term effort to educate them while they are still at work. These children should be brought into mainstream education in course of time. Even though if it does not happen, the non-formal schooling will impart a positive effect on their future earnings and inform them about their rights as children.
- Very poor returns to primary education indicate the failure of the educational policy. Lack of faith on the quality of schools and formal education also drive children into labour market. The Education system needs an urgent revival starting from increase in the public spending on education.

- Negative returns to higher education in rural India are pointing out the dynamic changes that the rural labour markets are in need of. Employment opportunities in the rural labour market are drying up and there is an urgent need for a policy revamp. There is a decline in the growth of rural labour employment and an increase in unemployment rates. Agriculture no longer remains a promising employer and there is an increasing casualisation of labour force. Such a situation is encouraging growth of child labour. Rural non-farm employment should be promoted to increase employment opportunities for those with higher education.
- The ban on child labour is limited to certain occupations. Despite the amendments, many occupations where children are specifically employed are missing from the list. For example, in the trade sector small children especially boys are employed. Including this occupation in the ban will benefit thousands of working children in urban areas. A study should be conducted to find out such occupations and include them in the banned list.
- Cooperation between state and central governments in the projects seems to be very limited. Increasing the cooperation between them will certainly make the projects more viable. As the funds flow from the central or the state government, it passes through various levels of hierarchy before benefiting the poor, making the projects more susceptible to corruption. Involving the local administrative bodies in the projects will be helpful to avoid corruption. Local governments like village Panchayats should also be involved in the project planning and also in monitoring. Participation by grassroots- organisations will be an effective counter-tool against child labour. In addition, strict measures have to be taken by the state and central governments to ensure successful implementation of the legal provisions already in place.
- Labelling initiative is restricted to carpet industry. With increased awareness about of child labour in India, even domestic products, which are prone to child labour, can be labelled. The labelling initiatives in the carpet industry are voluntary so far. Making them compulsory and increasing the surveillance measures will certainly curb child labour incidence in carpet industry. Labelling measures alone is not sufficient in curbing child labour. It does not

address the underlying reasons for child labour and therefore is no substitute to development policies.

- There exist huge regional variations within India, with select states in southern and central India performing well in socio-economic aspects. Several other states lag behind in economic growth and social development. More region specific studies on child labour are needed in India to tackle the problem efficiently. Government should focus not just on child labour in export-oriented industries but also on child labour in other occupations.