"Informality and Institutional Change in Child Labour:

An Indian Case Study"

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Abstract: Economic informality inhibits the effectiveness of government regulation of children's working conditions. The informal sector is huge in India (86% of employment) and creates local downward pressure on wages in certain sectors. Partly as a result, voice at work is very restricted for many working children in India. The construction and quarrying industries utilize child labour, as do hotel and domestic services, and the tobacco, wood, and garment industries. We measure the scale of the problem across diverse industries, as recorded in India's National Sample Survey. Statistical controls for education and income show that the informal sector and tradeable goods industries have more child labour than elsewhere. Implications for anti-child labour initiatives are summarized by way of conclusions. This review arises from existing work funded by the Economic & Social Research Council as part of the Unfree Labour Research Group (2007-9). Mechanisms of institutional change which could mitigate the impact of the economy on fairness at work have to operate through the informal sector. A growing danger is that during any recession the return of circulatory migrant labour to villages will tend to increase the oversupply of less skilled rural labour. The informality of casual labour exacerbates the problem of exploitation. Answers lie in the initiatives surveyed in this paper but also in structural change to assure access to land and benefits to support parents of vulnerable children. The paper includes a discussion of three recent strategies to reduce child labour, noting that the association of child labour with informality and with tradeable goods production has implications for how best we examine these policies. A political economy approach is recommended.

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Prologue

Caution is called for when handling the socio-economic and policy issues of child labour. Child labour damages children's education and therefore life chances, but many writers in this field warn that children and their families benefit from the work and from the pay, often received by the poorest households. Difficulties arise in attacking the 'problem' if children and their families avoid the eradication efforts. One needs a comprehensive view of child labour, and of how child labour is viewed by various stakeholders, to ensure that the good intentions of all these actors are taken into account. The paper looks at connections between growth, trade, informality, and child labour, taking an all-India view but also focusing briefly on urban case material. Using statistical data, we can integrate an analysis of education, household income and informality in a multidimensional framework. The paper is ambitious in view of the interesting data set used - India's National Sample Survey of Employment and Unemployment 2004-5 - as the primary data source.

The paper begins with an introductory section (definitions and aims); then presents the data and methods used; offers a brief review of existing knowledge about Indian child labour; in section 4 offers the main findings and some hypotheses for future research; then a brief qualitative case study; and finally in section 6 we review the activities currently organised against child labour. There was a downward trend in India's child labour [reported] prevalence 1981-2005, but while economic growth happened the size of the informal sector remained huge. During the pre-2008 growth phase the informal sector was an important part of the way many tradable goods were produced (e.g. through value chains that have fourth-tier outsourcing in cottage industries). It would be possible through further growth or even during any future recession for child labour to increase, rather than decrease, as it is intimately involved in the production of tradeable goods. We explore variations in the existing *reported relative levels* of child labour in different age/sex groups. Child labour is exclusively found among working class, less-educated families. Child labour is associated with high informality and with the production of tradeable goods, including the sectors such as quarrying and garments already mentioned. Once these factors are allowed for, the child labour percentage actually falls with the prevalence of rural residents (for 585 geographic areas of India). Child labour is thus not a problem of remoteness, or simply of poverty, but one that results from the economic structure and social expectations. A strategy for dealing with child labour needs to deal with the persistently huge informal sector in the country.

The paper concludes that the growth in incomes that persisted through the 2000's is not sufficient to eradicate child labour, and that instead it is better to conceive of children not as the means to rapid growth (as a nimble fingered cheap labour supply) but as an important core target of development itself. Children would be seen instrumentally if the focus were too strongly put upon success in the 'economic growth sphere'. Bypassing their agency, this approach too strongly grants employers the power to argue that world prices dictate low wages for these workers. Instead, a capabilities approach or human-development (perhaps even post-development) approach can appreciate children as actively involved in the development of themselves, their families and hence the society (Reddy, 2000).

1. Introduction

Children working are mainly of concern if the children are of school age (5-15 years).This age group includes all children before marriage who are of a suitable age for primary or secondary school. We define 'child labour' as those who are in paid work, or work as helper in family enterprise or are self-employed, fulltime or sufficiently that they report this work as their occupation to the survey (Bachman, 2000). Those who are in school are not considered to be child labour although there are many part-time working children in this group. The recorded rate of child labour and Not in Employment Education or Training (NEET) is surprisingly high (3% of workers; 5% of all children age 12-15) and within these groups we will present comparisons by sex, rural/urban, and household class.

The reporting is bound to offer poor quality estimates at local level and a slight or large undercount overall. First of all the NSS itself, in spite of a highly professional delivery technique and carefully weighted method of sampling, gives an undercount of India's population.[1] Secondly an enumerator may hesitate to classify a child as not in school if the child's work place is hazardous or otherwise breaks the child labour laws. Thirdly a family may wish to designate all children as 'in school' because they wish the kids to study and may also perceive the child's work as temporary, part-time, seasonal or as not limiting the ability of the child to study (e.g. cow tending work on weekends). For all these reasons one does not expect the NSS to contain many accounts of child labour. On the other hand the survey is exhaustive in asking about the activities of each person and indeed there are two opportunities for child labour to be revealed: firstly when the principal or subsidiary activity of each person in the household is asked (those definitions being a topic on which guidance is issued by NSS, and enumerators can guide the respondent who answers on behalf of household member); and secondly when a one-week set of half-day time use records is requested. One week recall is a useful technique to derive more specific occupational data as well as actual school attendance, rather than asking for a broad occupational label. Two examples where one-week recall should improve accounts are: children living away to work as maids may first be reported in school, but when asked how they spent the last 7 half days a discrepancy may occur, and the paid migrant work may be revealed. Secondly once the work of a Saturday or Sunday is admitted there may be less hesitancy to state that the child worked all seven days of that week. We include the one-week recall in setting up occupational contrasts for child labourers of age under-12 years and under-16 years. However overall the admitting of these cases into the data did not increase the numbers more than a few percent over what was claimed for subsidiary and principal occupations in the first place.

Over the past years the number of officially reported child labourers has fallen. The Census of 1981 to 2001 can be used to document a long-term trend toward educating children in school and away from using children as farm labour or child labour. There was a fall in child labour as a percentage of all children from 11% in 1993 to 5% in 2004/5, as affirmed by rounds of NSS data analysed by Mukherjee (forthcoming). Mukherjee's estimates correspond well with ours, although Mukherjee chose an age cutoff of under-15 years.

2. Data and Methods

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[1] The NSS follows normal sample survey practice in excluding institutionalised (those resident in prisons, care homes, hospitals, and orphanages) and homeless populations from the survey sample. The 2001 census enumerated an institutional population of almost eight million, and a homeless population of almost two million. In the latter case at least, it is likely that the census figure falls short of the real number, since this is a sub-population notoriously difficult to enumerate.

Aims

The paper mainly gathers together national estimates but also explore variations within the society and therefore looks closely at one state, Andhra Pradesh, which has a high incidence of child labour, and at one urban case-study site (Bengaluuru construction sector). The industrial prevalence can later be used to guide case-study investigations into these sensitive matters. We explore three main hypotheses, whilst our aim is to develop a retroduction approach (asking 'why' to find explanations about each pattern found). Retroduction builds up a scientific picture by exploring and explaining the main phenomenon. We build up knowledge through a series of investigations (Downward and Mearman, 2007). The starting point was, however, some initial hypotheses: 1. NEET children of both sexes are widespread and thus overwhelm the numbers reported as actual labourers, creating a large reserve pool of labour supply; 2. Child labour is not eradicated in high-income states (which had high economic growth up to 2004/5) but rather is minimal only where there was a long-term structural and political change favouring social equality, such as in Kerala; 3. Girls are heavily involved in the production of goods that are 'tradable', are thus affected by the export markets and are hence potentially subject to world recession trends. We also explored where younger children under age 12 are located.

The paper aims to use the best available source for quantitative social science about child labour in India. Data for 2005 are used here, while those for 2008 are now available for research (in progress). The data thus precedes the events of the worldwide difficulties in banking and in property markets of 2008-10. These data offer a glimpse of children's vulnerability at a time when India has become more open than ever before to world markets. One case study of the construction sector in Bangaluuru is offered through personal communication with Elizabeth Wardle, now conducting PhD research there (Univ. of Manchester, Inst. For Development Policy & Management; and hosted in part by Inst. For Social & Economic Change (ISEC), Bangaluuru).

Data

This paper draws on data collected during the 61st round (2004 / 05) of the *All India National Sample Survey of Employment and Unemployment* (schedule 10). The survey contains information for 124,680 households and 602,833 individuals at the all India level (8,428 households and 34,310 individuals for Andhra Pradesh). Respondents were asked detailed questions regarding the kinds of labour activities that they usually undertake in either (or both) a principle or subsidiary capacity. A further set of questions investigated the types of labour undertaken in the week preceding the survey. Labour activities are classified according to *National Industry Classification 1998* (NIC) codes which correspond closely to the United Nations' *International Standard Industrial Classification (ISIC) of Economic Activities.*

The survey is undertaken using a probabilistic stratified, multi-stage sample design. Briefly, the NSS stratifies by geographic region, urban-rural area, population density, and household affluence; with each stratum designed to be non-overlapping and proportional to the group's proportion in the population (based on projected population figures from the 2001 national census taking into account decadal growth rated between 1991 and 2001) (MSPI 2006: 82).

Full details of the sampling methodology can be found in the National Sample Survey Organisation's (NSSO) documentation for the 61st round (NSSO 2004).

The sampling frame for the first stage units is derived from the 2001 national census in the case of the rural sector, and from the *Urban Frame Survey* (UFS) in the case of the urban sector. First stage units (FSU) are census enumerated villages (rural sector) and UFS blocks (urban sector). Villages and blocks are selected by probability proportionate to size (PPS) systematic sampling (with population as the size variable) from the relevant sampling frame. Households form the second stage units. Every household within each selected FSU is canvassed, in the order in which they appear in the sampling frame listing, in order to collect up-to-date information to enable second-stage stratification (MSPI 2004b: 3). On the basis of the resulting intra-FSU sampling frames, households are divided into three second-stage strata according to relative household affluence, and cases are then selected from within each stratum by simple random sampling without replacement (NSSO 2004). Over 97% of households in the all-India sample and 96% of households in the Andhra Pradesh sample are those originally selected. The remainder are households substituted in, where the members of the originally selected household were unavailable or uncooperative. Thus the replacement rate is very low, limiting the bias that could arise with a poor response rate. Substitute households were selected from within the same stratum by simple random sampling without replacement (MSPI 2004a: 6).

The National Sample Survey Organisation (NSSO), in line with most nationally representative sample survey organisations, uses adjustment weights at the household level based on extrapolations of the Census to account for unequal sampling rates in the strata. Extrapolating from 2000 to 2005, the Indian population is estimated to be 1,100 million (1.1 b), but the NSS sample for 2005 gives an estimated population of 971 million, 12% lower. The NSS uses household-level weights which equate the sample *n* to the population *N*. Institutionalised and homeless households are excluded. The NSS is widely considered to be a representative national survey.

Measurement

The operationalisation of terms that best fits the available theories and data allows us to use the words boy/girl for the children under age 16, and woman/man for those older (although the date of marriage is in reality a key turning point for young people). We defined child labour earlier to include three categories of work relationship:

> Work for pay, whether salaried or casual;
>
> Work in self-employment (SE); and
>
> Work for family enterprise as a 'helper' (HFE) (an NSS term).

The principal occupation is that which takes up six months of the year or greater and is the main form of income for the person, and a subsidiary occupation can also be named for each person. If either the principal or subsidiary occupations was schooling, then the child was deemed not to be child labour. Four year olds and younger are omitted from the NSS survey 61. However if a child had no occupation at all and then turned up doing paid work, self-employment or helping, then they were reclassified as child labour. If they were studying but also did one week's reported work, this would not count as 'child labour' here, because any child reported as studying is assumed to have school as their primary activity. Thus we offer under-counts of child labour.

The category 'participating in the labour force' is normally considered to include unemployed people. In this paper we exclude unemployed people from the counts of both workers in market labour (I.e. paid, SE or HFE) and child labour. This avoids problems of including children in the unemployment rate. Market labour thus means not only that paid directly, but also that which is only indirectly remunerated through the realization of turnover or profit and the sharing out of proceeds either within a micro enterprise, an informal enterprise or family.

NEET is a wide category that allows the unemployed, under-employed, those doing extra-domestic work and domestic workers -- if not noted as FHE -- to be added together. Extra-domestic work such as cow watching, collecting fuel, gathering water etc. are likely to be prominent in NEET workers' lives. However NEET children are not in school or training, and that is a key point. Instead of combining study with work tasks, they are actually not in school at all. The number of young NEET workers under age 12 is enormous (25 million). Households with a working child were only classified as such if a child labour (not just a NEET or part-time working child) lived in the household. Absent children were not counted.

Informal sector work is proxied here as work in enterprises of less than 5 workers, and a second tier of enterprises of less than 10 workers is also covered. In agriculture, however, no measures of size of enterprise were taken due to family help and casual work being prevalent. Industrial sectors are proxied by the one-digit NIC 1998 scheme, giving 17 categories. These in turn are broken down in two ways here. Firstly we break them up at 2-digit level to major subheadings of manufacturing and retail; and secondly we compiled a list of the 4-digit sub subheadings which comprise 95% of all world traded goods, thus approximating the industrial sectors that are tradeables (among which agriculture itself features prominently).

Monthly per-capita expenditure (MPCE) is used as a proxy for income so that the relative poverty of child labourers' households can be highlighted. Instead of dividing expenditure by the number of household members, we use an adjusted figure that counts 0.7 for adults, 0.5 for children, and 0.3 to represent a fixed household cost. The result is adjusted MPCE.

Methods Linked to Theories - Pluralism

In reviewing what is already known about child labour, we noted that labour markets do experience supply and demand factors, but that neoclassical models of markets are not sufficiently detailed to allow for changing role stereotypes and norms about children and parents' behaviour. Studies of patriarchy and family relations are helpful in rounding out this picture, so a pluralist approach to theory is needed that enables sociology and economics to interact. Further theories such as deproletarianisation (arguing that children among other unfree labourers are disabled from struggling to improve their own conditions by the cultural and other bonds that create barriers to serious resistance or exit from their work) and new slavery are also relevant (see Van Den Anker, ed., 2004; Upadhyaya, 2004). When applying pluralism one is not testing these theories, but exploring the society that is imperfectly described by them. Instead of testing the hypotheses, one begins a retroductive explanatory effort that can aid those who wish to understand and ultimately improve the society. The broad academic tradition known as the 'transformative model of social action' applies, where

knowledge informs *praxis.* The results can be seen as useful to the work of various practical actors such as NGOs and labour officials. The paper is quantitative but in a mixed-methods tradition.

3. Background

Economic and social literature explaining child labour

A brief review of how child labour is located in socio-economic theory may be useful. There are a variety of approaches, ranging from economic theories of individual maximising behaviour all the way to sociological theories of structures that shape the labour market. On the one hand – on the 'maximising' individualistic end of the spectrum – the neoclassical economists Basu and Van (1998) theorise child labour as a rational choice in which the parents of the child offer labour onto the labour market under conditions where they cannot afford to invest in educating their child. Here education is seen as a luxury, and the financial advantages of having a child work is compared with the 'opportunity cost' of having them go to school, the latter being considered implicit yet important (Balhotra and Heady, 2004). The employer also has a rational choice in these models: to hire labour at the cheapest possible rate. For employers, it is argued, the children have low bargaining power as they come from poor families, yet are nimble and obedient enough to be productive in paid work. The neoclassical models have concluded that an equilibrium outcome may involve plenty of child labour; that charging guilty employers a fee may not sufficiently discourage child labour; and that parents who support their children working may not be discouraged from this practice even if the child is rescued and sent home. The child may be returned to the labour market if underlying conditions at home are not altered.

These neoclassical economic models inadequately cover farming work, domestic work and other situations where the 'employer' is the child's family itself (e.g. unpaid helper) or is a family and not a business entity. Moving to the other end of the spectrum, sociological theories of child labour approach this phenomenon in terms of what social norms are operating that make it conventional, acceptable, and even normal for children to work. Here there is an understanding that class inequality underpins the location of child labour entirely in the working classes. However sociology rarely takes the simplistic approach that class determines a labouring outcome. Instead sociologists have pointed out three factors (a) that families agree on a strategy to increase household income, within which children have a role and are part of asset-sharing as well as a growing level of voice (and agency) as they get older; (b) the structural patterns that restrict where child labour comes from are not sufficient to explain why some children do not work, and hence (c) explanations of the motives for/against educating a child also need close attention. Among the sociologists looking closely at child labour are Boyden et al., recognising child's growing agency and cultural diversity across subgroups in what is considered acceptable as a child's role (Boyden and Myers, 1995); Van den Anker and the new slavery literature (2004), which place child labour among the forms of unfree labour and recognising child labour as very likely in families where bondage or unfree relations occur for the adults; and economists such as Ramachandran and Swaminathan (1998) who have tried to encourage the treatment of children as workers and notice low wages and their role as reserve army of labour.

In the area of socio-economic analysis, studies such as Olsen and Ramanamurthy (2001) analysed institutional change by starting with attention to strong social inequalities that underlie the pattern of child labour: we notice the ethnic and class differences and stress inter-structural multiple disadvantage. Child labour is seen here as one possible upward mobility strategy, because for some children the norms of social mobility (including ambition and hope) imply that they must try to make their families better off over their lifetime. Case material in Olsen and Bhim Reddy (2012, in press) and Bhim Reddy (2002) shows that among migrant construction workers some bonded child labourers did later, when in their 20's and 30's, manage to amass savings, repay family debts, make rural investments in their home village and achieve village-level social mobility during the 1990s and 2000s. Among these scholars we can also place Venkateswarlu (2003, 2004, 2007) and Dacorta, as well as Ramachandran (2000), who take a positively hopeful approach so that initiatives to change the conditions can be focused on structural change, lowering inequality, improving norms about a good childhood, changing gender role stereotypes, decreasing ethnic discrimination that affects children, and changing the labour standards effective in each industry. The aim is not to reify the structural patterns but to notice initiatives that in the medium to long term can change the social structures that breed child labour. These sociological approaches rest well on a bed of human capabilities theory, and thus diverge from the commercialism (and GDP orientation) of the neoclassical economics approach. Instead we look not at the worker-employer nexus but at the wider social milieu in which children work, and we try to see how that can be molded to one which is better suited to the widening and deepening of human capabilities (Nussbaum)

Informality and Location of Child Labour

Two-thirds of India's child labour is in the industrial sector 'agriculture, hunting and forestry', where small family farms and small enterprises are very common. The literature on 'livelihoods' in development studies argues in favour of rural families gaining a foothold in more than one activity, and the child's labour might contribute to this diversification. However due to the high informality of this sector, the children's work that is paid or productive in these families is neither stable (like a job) nor highly paid. To illustrate the latter point, our field experience in southern Andhra Pradesh has shown that cow management - often financed by a woman's self-help group sponsored microfinance loan - is much more profitable among the better-off middle farmer groups than among workers. Indeed, among workers the management of a cow is so time-intensive that buying a cow can lead them to take a girl child out of school. The girl may watch the cow which needs careful tending for its food and water intake; or the girl may do cooking and take care of younger siblings while the mother watches the cow. Ironically, households that can afford more than one large livestock animal, such as milch cows, are much less likely to be using child labour and they can also typically afford to educate all their children. The farming sector's informality also makes it the repository of a large reserve army of under-employed labour, both adult and child. Therefore during the recession period the farming areas have found to some extent a return of migrant workers back into villages and an increase in the supply of labour (with concomitant fall in local real wages).

In other sectors, shown in Table 1, the prevalence of child labour is higher in the more informal firms than in the large firms, with size representing the level of formality of a firm.

We later run a regression that shows a surprising negative coefficient for 'rurality', once informality is allowed for.

Scale of Child Labour in 2005

The percentage of the working labour force which was reported as child labour is 3%, with 12.6 million child labourers in total in 2005 (Table 1; details in Appendix Table A2).[2] Among these, 1.2 million were children under 12, with the remaining 11.4 m children aged 12-15. The percentage working rises as age goes up. Overall, 5% of children under age 16 are employed as child labourers (Table 2).

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[2] Note that children under age 16 are not allowed to register as unemployed nor can they be counted as unemployed in any conceptual framework measured in the Employment survey.

Table 1: Proportion of labour undertaken in small-scale production and service units, by industry sector (Population Estimates at All-India Level)

Industry Sector	Children aged under 16			All workers		
	% working in units with less than five workers (by industry sector)	% working in units with less than ten workers (by industry sector)	Total number working in industry sector	% working in units with less than five workers (by industry sector)	% working in units with less than ten workers (by industry sector)	Total number working in industry sector
Agriculture, hunting &	-	-	8,451,851	-	-	233,572,918
Fishing, fisheries, and	100	100	21,676	78.19	87.17	1,264,840
Mining & quarrying	29.67	34.27	22,482	18.61	28.50	1,728,879
Manufacturing	80.81	87.82	1,879,184	63.94	72.94	43,432,788
Electricity, gas & water	100	100	1,337	12.49	17.99	797,916
Construction	51.65	77.68	364,365	62.37	79.86	18,636,676
Wholesale / retail / repair:	93.11	96.74	767,543	92.69	96.85	34,831,366
Hotels & restaurants	91.37	99.67	250,367	77.90	88.54	4,953,133
Transport , storage &	70.21	85	93,632	76.70	82.38	14,171,777
Financial intermediation	100	100	53	30.86	41.47	2,158,252
Real estate, renting &	97.72	97.72	45,567	71.19	76.67	3,461,759
Public administration &	-	-	0	13.79	21.05	5,361,300
Education	65.05	99.68	14,283	43.59	59.02	8,854,966
Health & social work	100	100	3,177	54.35	62.42	2,754,616
Other community & social	94.01	97.43	186,249	90.51	94.03	6,747,932
Private household paid	100	100	209,458	97.77	99.19	3,854,891
Extra territorial	-	-	0	95.12	95.12	2,787
all sectors	**86.83**	**93.12**	**12,311,224**	**74.02**	**81.64**	**386,586,796**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 386,586,796 (all India sample undertaking market labour **and** reporting firm size; excludes weekly recall to incorporate firm size) N (under 16s) = 12,311,224 weighted. *enterprise size is not recorded for a majority of industry groups within the "Agriculture, hunting & forestry" sector

Table 2: Reported Child Labour and Those Not in Employment Education or Training (NEET)s in India (All India level)

	Children <12 Years	Children 12-15 Years	Adults	Total number
Agriculture hunting and forestry	766,000	754,000	224436285	225,956,000
Private household paid employee	12,000	205,500	3793006	4,011,000
Other	391,000	3,543,000	162426088	166,360,000
Total Market Labour	1,169,000	4502429	390655379	396,327,000
% of Children in Group Who Do Child Labour	0.8%	4.4%	-	-
NEETs	25,599,000	11,095,000	-	36,694,000
Studying and Not Employed	**130,425,000**	**67,171,505**	**-**	**197,596,500**
Total Labour Including NEETs	**26,767,940**	**15,597,429**	**-**	**42,365,369**

Data Source: All India NSS Round 61, Schedule 10, weighted.

The prevalence of child labour varies by location, with those households in rural areas more likely to report child labour than those in urban areas, overall. Figure 1 shows that some states with more population in rural areas have higher rates of child labour (the mean percentage being 3% on the vertical axis). A few highly rural states have low child labour rates, as shown at bottom right of this Figure. The Figure 1 suggests that having a high rural population is a necessary part of the child labour syndrome, with Delhi at bottom left showing no rural households and very low reported child labour. Uttar Pradesh spreading to the east and south of Delhi is at the other extreme on both these indices. The girls' occupations tend more strongly toward agriculture, while there are more boys in construction and transport relative to girls (Figure 2a).

In Figure 1, the Y axis is the child labour prevalence as a Percent of the total workforce who are in paid work, self-employment or working as helper in family enterprise. The horizontal axis is the proportion of the state population which is rural, e.g. Andhra Pradesh 65% rural with 4% of workers under age 16.

Figure 1: Degree of Child Labour (15 and Under) by State by Rural Proportion

4. Findings

4.1 *Informality Common for Both Girls and Boys, and Younger vs. Older Children*

India's manufacturing, catering, and retail sectors have a high degree of informality, but in Table 1 we can see more precisely which areas of child labour are highly informal. Agriculture employs 8.5 million child labourers, i.e. about 2/3 of the child labourers, and we cannot easily classify agricultural employers as 'formal' sector or 'informal' sector. India's agricultural production per se is generally considered to operate in at least partially an informal way, especially with regard to labour relations (these producers may at the same time observe some regulations on product quality, units used to measure output, etc.) However for all other sectors, containing another 3.9 million child labourers, the employers with <5 workers can be classed as 'informal' and there the leading employers of children are the following ones: manufacturing, wholesale/retail/repair of motor and household goods, real estate, renting and business, construction, and mining and quarrying. In addition, 100% of all the domestic workers are considered to be in the informal sector, protected by laws and regulations only in so far as the employer sees this as necessary: 210,000 child labourers in this sector were recorded for 2005.

Other conceptions of informality might look at the payment of tax, the size of the firm by turnover, whether there are accounts or auditing, and the registration of companies. These variables are not available in the NSS Employment dataset but they may be available elsewhere. Since we are looking primarily at employment, we consider that a measure of the size of firm by number of workers is associated with higher likelihood of facing direct regulation by the Labour Officers. In Table 2, measures of the prevalence of child labour in units of less than 10 workers shows similar patterns, notably a strong level of child labour in construction industry in the 6-10 worker group. A smaller group of child labourers are in small firms of 6-10 workers in 'education'. The children's jobs are likely to involve cleaning in these educational establishments. If there are public-sector education facilities employing children of 5-15 years, this would imply the government breaking its own rules; it is likely to occur in some places but it is also possible that private sector tuition

companies and informal-sector baby nurseries are the main employers of child labour within this sector.

The NEET category (children not in employment education or training) contains 36 million more children (of whom 25m are under age 12). This huge mass of children is likely to be involved in helping on farms and doing domestic work, running errands or supervising other children. However their work was not considered worthy of reporting by the adult responding to the NSS Employment questionnaire. Given that schooling is compulsory, one might expect a family to lie and claim their children are all at school, but in India the reporting of NEET status is widespread. One thinks of such children as a reserve pool of labour, but in reality they are often kept very busy by their existing, highly informal duties. In many cases the child is watching over the hut/tent/home and other siblings while both parents are going out to work. Domestic work and caring do not get attributed with the status of 'work' in the way that paid work does, so they are reported as NEET.

In reflecting on the high numbers of NEET children one notices primarily the lack of achievement of compulsory education among the 4 to 12 age group. More than 16% of this age group are not in school yet also not working (per se). Some interventions aimed at reducing child labour are likely to affect this group. For example opening up informal or flexible Bridge Schools may enable the NEET children to attend school without necessarily reducing the number of child labourers per se. Further research can report on the prevalence of NEET children in the same households as child labourers.[3] The causality behind NEET status is not only about poverty and low levels of farming assets, but also about childcare and the need for a secure household with someone present while parents are absent.

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[3] The hypothesis that a household with two employed parents and a child labourer will have other NEET children can be tested using structural equation modelling. Regression models need to balance out the impacts that parents' and other siblings' work have on each child. The standard individual models of labour supply can be adapted and improved, but this work has not been done in developing country contexts. An example is Fuller (*).

Figure 2a: Gendered Patterns of Labour Participation, by Industry (**All-India, 2005**)

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment)

N = 404,248,751 (all India undertaking market labour) N (women) = 131,775,309; N (men) = 272,473,442weighted
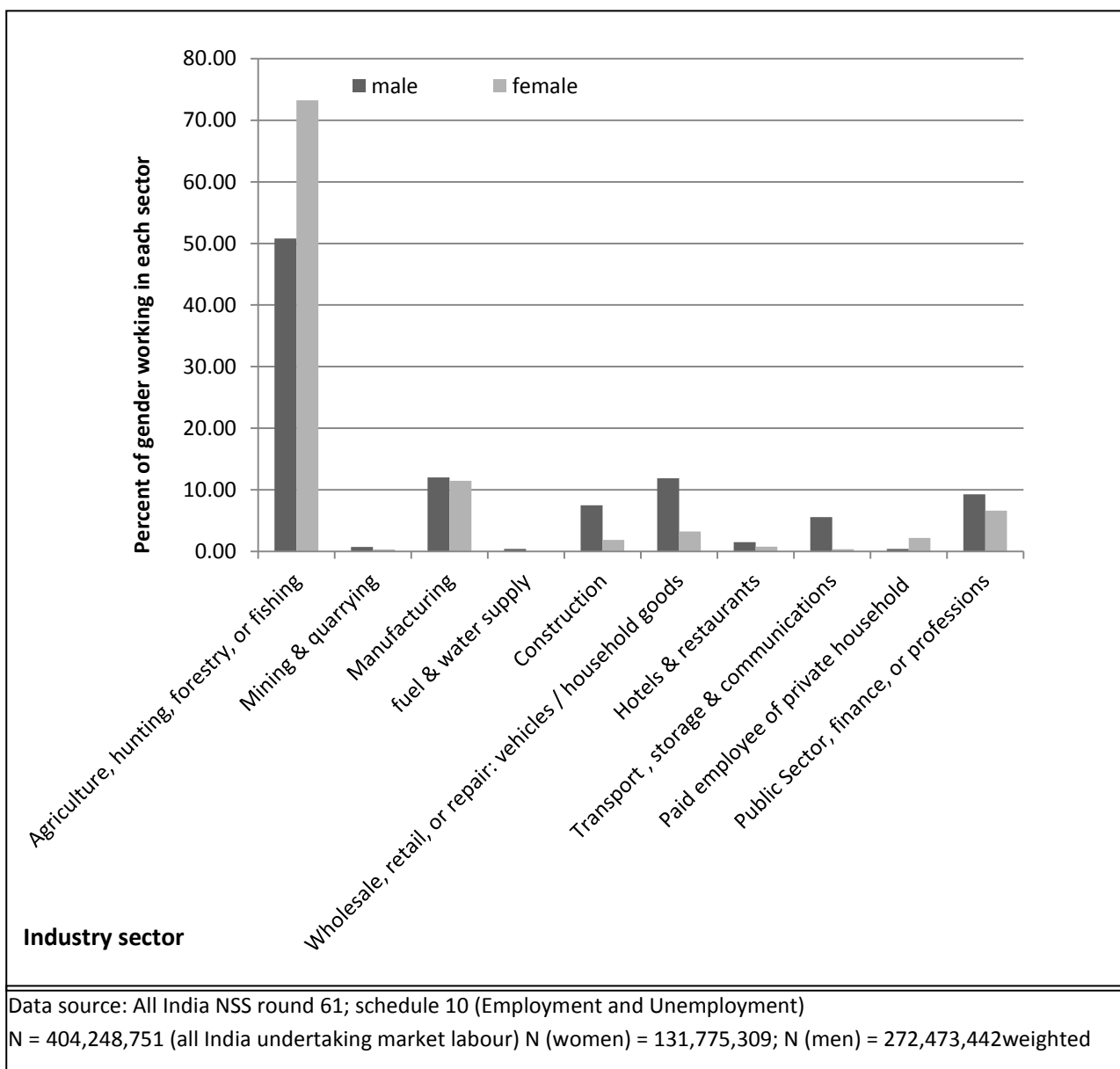
Figure 2b: Gendered Patterns of Labour Participation, by Industry (**All India, 2005**)

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment)
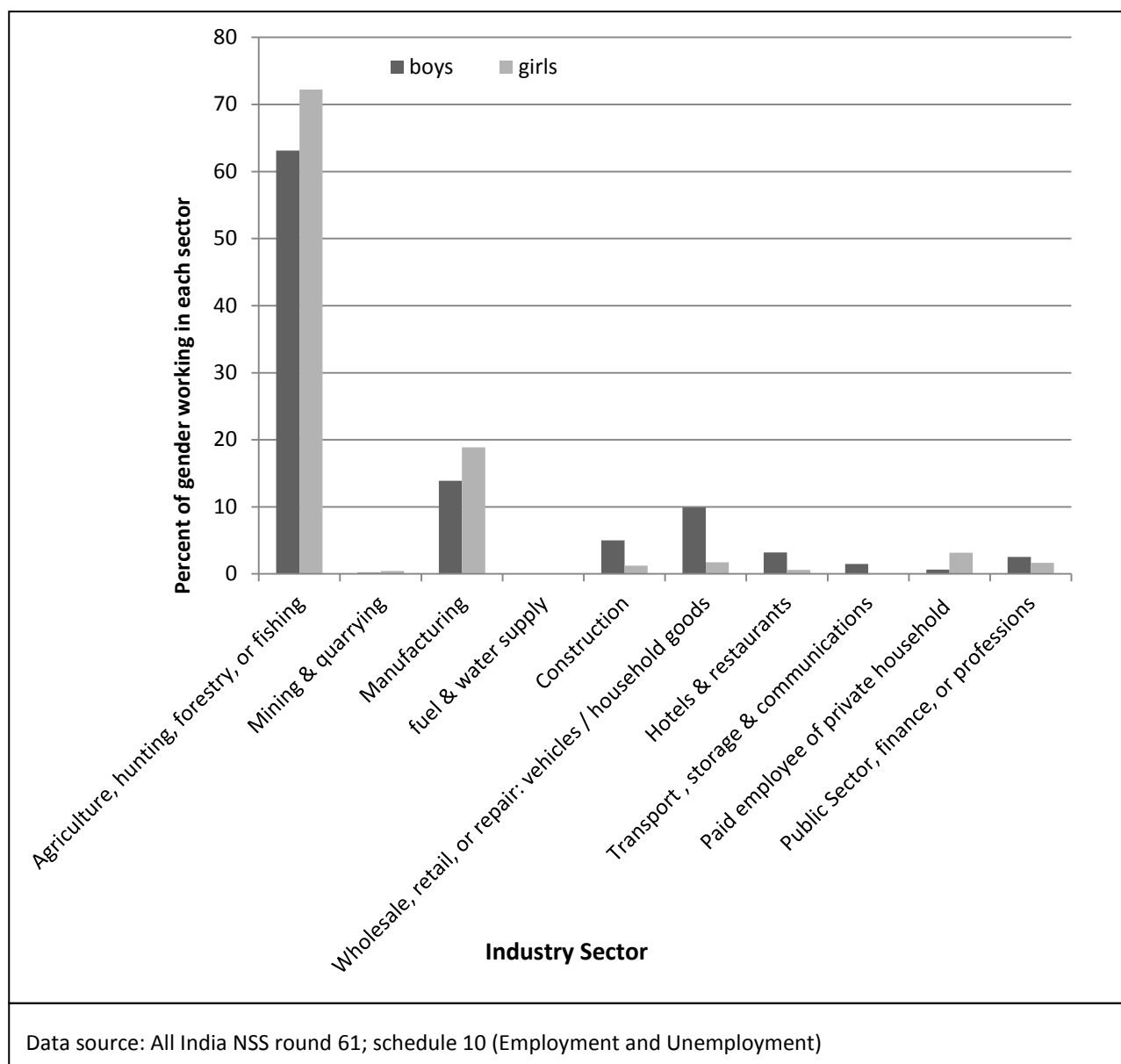
There has been considerable discussion of the ways in which child labour inhibits a child's school education (Ravallion and Wodon, 2000; Ray, 2000). However the absence of children from school is not entirely explained by their doing child labour *per se,* as Table 2 showed. Background factors in the household livelihood strategies are causing many more children, approximately triple as many, to be out of school but not earning money as child labour (NEET). In raising this issue, both Mukherjee (forthcoming) and the neoclassical literature (Basu and Van, 1998) note that access to a school education is a luxury good. At least 44m children in 2005 were in this kind of household. A macro political economy overview by Polakoff (2007) indicates that globalization and liberalisation of market itself can be a cause of these growing problems for the poor, such as lack of education. Polakoff shows that real incomes of workers decline and profits rise during rapid growth periods, and that the exploitation tends to lie in vicious circles where children's cash earnings are valued more during periods of extreme poverty. In India, too, Jha (20020 and Kniivila (2007) show that the labour share of value added has been declining strongly during India's growth spurt. (See also recent report).

4.2 Rapid Growth in India Did Not Eradicate Child Labour

Agriculture, fishing and construction are three of the lowest income sectors for those who have children working as child labour. Figure 3 illustrates the difference of income levels, proxied by monthly household per-capita expenditure, for three different groups: those with and without child labour, and those with no children at all in the household. The biggest group by far is those without child labour (but with dependent children). In this figure we see the higher poverty level among the child labour households, notably in trade and manufacturing. The difference for child labour v. other is much smaller in agriculture. This may indicate that the reporting of child labour is a bit arbitrary, with a blurred line in rural areas for those with/without child labour. There is a low income level among all households where the occupation is domestic work – whether they have a child labour or not.

The growth spurt of 2000-2007 did not eradicate child labour, and the growth rates only fell slightly in India during 2007-8. For example the annual national per-capita net national product figures were 12.8% in 2005/6, then 14.3%, 14.0%, 13.3% and 10.5 % in the year 2009/2010.[4] Thus in the years before the world crisis there was very rapid growth. In recent years it is said that 2007/8 was India's difficult year, with a decline in the rate of growth of GNP, but overall there was no recession. (A recession would involve negative growth rates.) The tail-off in the latest year for which figures are available, 2009-10, is significant in several states (Andhra Pradesh, Bihar, Rajasthan, Chandigarh, and Pondicherry). We can group the states into those with a large growth boost during the last 4 years 20078-2009-10 (Gujarat, Haryana, Karnataka, Kerala, Maharashtra, and Orissa)) and those which had a mixed, muted or declining trend (Chattisgarh , Jharkhand, Tripura and those mentioned as experiencing the tailing off 2009/10). Thus overall one cannot say that India has had a recession in any sense (at least yet) but there is inequality of the impact of growth on average spending power by state.

The per-capita measure of monthly expenditure shows great inequality between rural and urban areas, and across deciles, with high and rising rural food prices causing concern about the greater exposure of the poor to world prices. For example Table 3(a) shows that 58% of manufacturing child labour lived in rural areas in 2005. In Andhra Pradesh this figure is 78% for the under-12 child labourers, and 59% for all child labour under age 16. 80% of child labourers in the transport sector, too, are living in rural areas (in Andhra Pradesh) and 61% overall in India. The idea of world prices affecting manufacturing workers and agriculture more than service-sector workers may cause us to think that these rural child labourers are vulnerable to world recession even if, so far, their experience has been of rising price levels not recession. In table 4, which shows the main concentrations of child labour in specific subsectors of agriculture (a) and manufacturing (b), we find that in livestock, vegetables, textiles, wood, and tobacco, girls form the majority of child labourers and that the vast majority of child labourers by number are in rural areas. In Table 4(c) the figures for trade/retail sector show fewer young children <age12, and almost no girls in this industry as child labour.

Figure 4 returns to the sum of child labour in all the sectors, and it shows an inverse relationship between average household expenditure (monthly per capita) and child labour. Thus one might argue, rising incomes tend to be associated with less child labour; or low incomes are associated with high child labour. More importantly, the diagram shows that higher expenditure levels are not sufficient to eradicate child labour. Yet states with higher child labour rates do have low average household income. These include notably Uttar Pradesh, Rajasthan, Andhra Pradesh and Orissa all with >3% of workers children. The star performers in this figure (with low child labour) are Kerala, Pondicherry, Goa, and Delhi among others. These have diverse income levels but tend to be highly urbanized and somewhat westernized. Some northeastern areas have relatively high rates of child labour (notably Mizoram, Nagaland, and Arunachal Pradesh).

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[4] Government of India (2011). India Economic Survey 2010-2011, Statistical Appendix, URL http://indiabudget.nic.in, accessed July 2011. Table A12.

In this section we showed how children are exposed to the effects of the globalised sectors through their rural work in tradeables industries and through living in poor households or in states that are poor, on average. Some care must be taken to adjust the raw figures for education, so in the next section we pull these strands together with a regression. (See also Appendices for average levels of each variable.)

Figure 3: Working Children's Household Expenditure Levels, All-India 2005

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 194,837,920
(all India sample <u>households</u>) weighted
*MPCE is weighted by adjusted household size (adult = 0.7; child = 0.5; fixed household cost = 0.3)
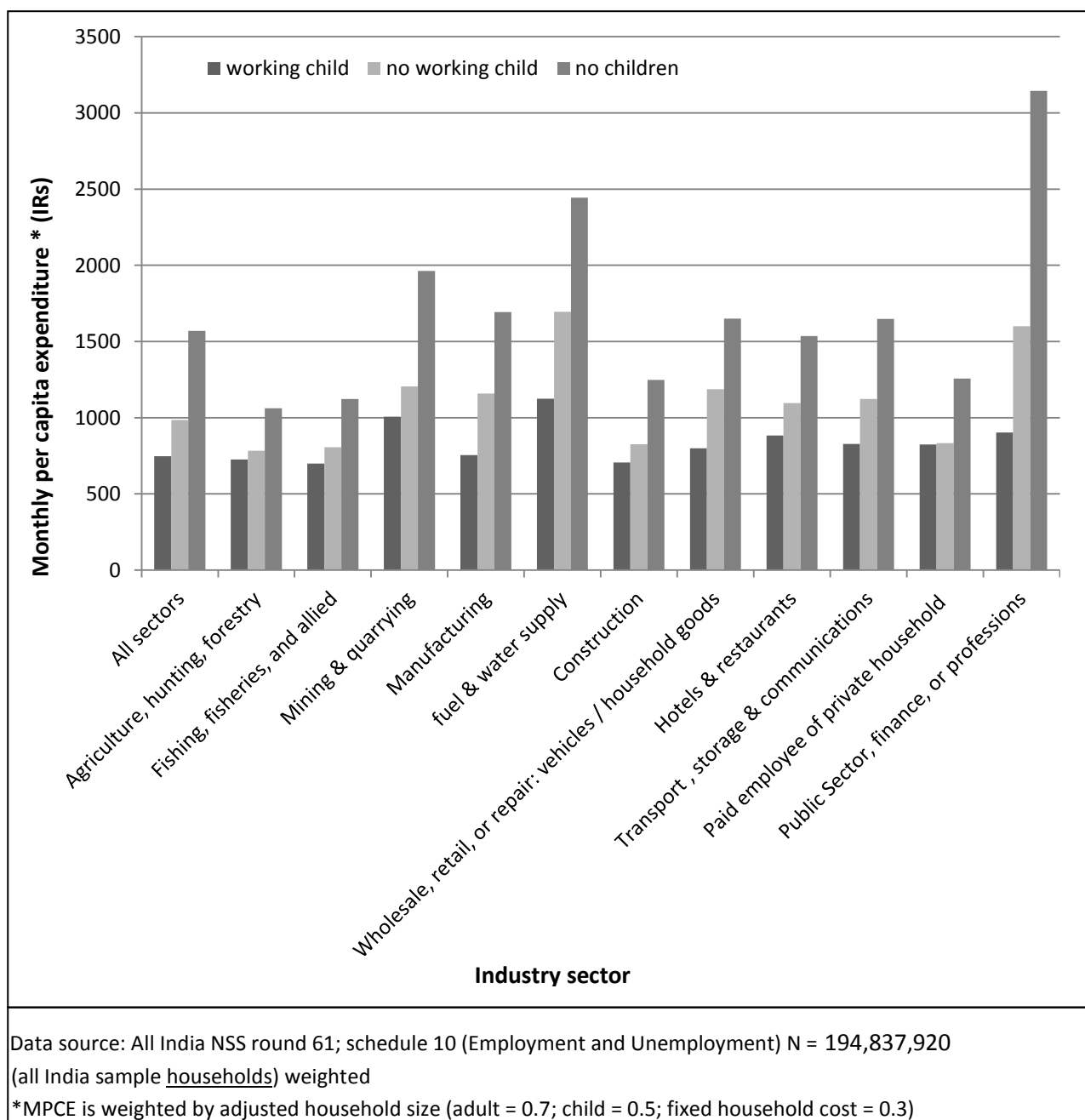
Table 3(a): Rurality by Sex by Age, for Children and Adults, All-India 2005 (all India)

Industry Sector	Under 12s				Under 16s			
	Sector total	% urban residence	% rural residence	Industry sector as % of total workers in age group	Sector total	% urban residence	% rural residence	Industry sector as % of total workers in age group
Agriculture, hunting & forestry	825956	0.66	99.34	66.44	8451851	2.43	97.57	66.85
Fishing, fisheries, and allied	3341	100	0	0.27	22179	21.72	78.28	0.18
Mining & quarrying	470	68.71	31.29	0.04	36684	6.48	93.52	0.29
Manufacturing	259448	42.47	57.53	20.87	2027139	41.94	58.06	16.03
Electricity, gas & water supply	0	0	0	0.00	1337	0	100	0.01
Construction	7234	60.84	39.16	0.58	429439	23.76	76.24	3.40
Wholesale / retail /repair: vehicles / hh goods	71480	58.9	41.1	5.75	810779	47.05	52.95	6.41
Hotels & restaurants	30620	55.94	44.06	2.46	263091	50.1	49.9	2.08
Transport , storage & communications	4121	22.25	77.75	0.33	109271	39.46	60.54	0.86
Financial intermediation	0	0	0	0.00	53	0	100	0.00
Real estate, renting & business activities	0	0	0	0.00	45870	83.09	16.91	0.36
Public administration & defence	104	100	0	0.01	155	100	0	0.00
Education	811	32.75	67.25	0.07	15767	4.63	95.37	0.12
Health & social work	0	0	0	0.00	3178	99	1	0.03
Community & social service activities	26874	36.07	63.93	2.16	207696	33.56	66.44	1.64
Private household paid employee	12741	64.36	35.64	1.02	219132	65.51	34.49	1.73
Extra territorial organizations & bodies	0	0	0	0.00	0	0	0	0.00
overall	**1243198**	**16.26**	**83.74**	**100**	**12643621**	**15.65**	**84.35**	**100**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 12643621(all India sample undertaking market labour aged under 16) under 12s N = 1243198 weighted

Table 3(b): Rurality by Sex by Age, for Children and Adults, All-India 2005 (Andhra Pradesh)

Industry Sector	Under 12s				Under 16s			
	Sector total	% urban residence	% rural residence	Industry sector as % of total workers in age group	Sector total	% urban residence	% rural residence	Industry sector as % of total workers in age group
Agriculture, hunting & forestry	134829	0	100	78.59	1012090	0.78	99.22	64.34
Fishing, fisheries, and allied	135	100	0	0.08	185	0	100	0.01
Mining & quarrying	0	100	0	0.00	17904	0.97	99.03	1.14
Manufacturing	12421	21.61	78.39	7.24	195193	40.91	59.09	12.41
Electricity, gas & water supply	0	100	0	0.00	0	0	0	0.00
Construction	0	100	0	0.00	60079	34.9	65.1	3.82
Wholesale / retail /repair: vehicles / hh goods	0	100	0	0.00	95433	48.92	51.08	6.07
Hotels & restaurants	5841	49.24	50.76	3.40	46395	32.88	67.12	2.95
Transport , storage & communications	6236	20.02	79.98	3.63	24634	21.04	78.96	1.57
Financial intermediation	0	100	0	0.00	0	0	0	0.00
Real estate, renting & business activities	0	100	0	0.00	0	0	0	0.00
Public administration & defence	0	100	0	0.00	0	0	0	0.00
Education	0	100	0	0.00	4726	0	100	0.30
Health & social work	0	100	0	0.00	0	0	0	0.00
Community & social service activities	9959	4.61	95.39	5.81	70451	11.3	88.7	4.48
Private household paid employee	2136	100	0	1.24	45964	72.41	27.59	2.92
Extra territorial organizations & bodies	0	100	0	0.00	0	0	0	0.00
overall	**171555**	**5.59**	**94.41**	**100**	**1573054**	**13.83**	**86.17**	**100**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 1573054 (Andhra sample undertaking market labour aged under 16) under 12s N = 171555 weighted

Table 4: Industrial Sectors with High Concentrations of Working Children, (a) **Agricultural Sector (all India)**

Agricultural sector	Under 12					Under 16				
	n	%	% girls	mean hh size	% urban residence	n	%	% girls	mean hh size	% urban residence
Growing of cereals and other crops	447,172	54.14	56.64	6.77	0.00	6,409,039	75.83	45.02	6.12	2.12
Growing of vegetables / horticultural supplies	3139	0.38	100	6.00	61.89	96351	1.14	59.92	5.83	8.37
Growing of fruit, nuts, beverage and spice crops	9911	1.20	64.67	5.56	0.00	109874	1.3	34.27	5.92	4.49
Livestock farming (including dairy)	323775	39.20	48.62	6.45	1.00	1614304	19.1	48.11	6.29	3.01
Other animal farming / production of animal products	6690	0.81	0.00	5.83	0.00	13523	0.16	20.43	6.16	13.89
Mixed farming (arable and livestock)	0	0	0	0	0	4902	0.058	100	7.00	0.00
Agricultural and animal husbandry services (excludes veterinary)	4625	0.56	90.25	6.20	0.00	84519	1	68.55	6.68	5.32
Hunting, trapping and game activities	12142	1.47	13.93	4.38	1.15	21975	0.26	12.07	6.52	0.63
Forest gathering of tendu leaves	0	0	0	0	0	3381	0.04	61.06	4.44	0.00
Gathering of other wild growing forest products	18501	2.24	92.59	7.35	0.00	93816	1.11	77.87	5.57	1.61
overall	**825,956**	**100**	**53.66**	**6.59**	**0.66**	**8,451,851**	**100**	**46.16**	**6.14**	**2.43**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) n = 8,451,851 (aged under 16) under 12s n = 825,956 weighted

Table 4: Industrial Sectors with High Concentrations of Working Children, (b) **Manufacturing sector (all India)**

Manufacturing sector	Under 12					Under 16				
	n	%	% girls	mean hh size	% urban residence	n	%	% girls	mean hh size	% urban residence
Manufacturing: Food products & beverages	12428	4.79	31.99	4.28	12.54	167442	8.26	26.92	5.48	35.68
Manufacturing: Tobacco products	51033	19.67	69.09	6.45	38.61	304882	15.04	76.02	6.70	33.59
Manufacturing: Textiles	71193	27.44	62.39	7.19	61.78	626791	30.92	64.34	6.98	45.09
Manufacturing: Clothing; fur	8069	3.11	7.09	5.8	68.61	153657	7.58	36.68	6.40	48.00
Manufacturing: Leather goods	3918	1.51	0	3.33	22.17	56354	2.78	13.63	4.70	78.03
Manufacturing: Wood & wood products (excludes furniture)	57649	22.22	56.7	6.06	17.82	232716	11.48	37.44	6.52	22.80
Manufacturing: Paper & paper products	2465	0.95	100	7	100	9933	0.49	84.50	6.87	92.13

	Under 12 n	%	% girls	mean hh size	% urban	Under 16 n	%	% girls	mean hh size	% urban
Publishing, printing & reproduction	0	-	-	-	-	15001	0.74	44.07	6.87	100.00
Manufacturing: Chemicals & chemical products	519	-	-	-	-	42367	2.09	64.94	5.92	48.80
Manufacturing: Rubber & plastic products	0	-	-	-	-	10947	0.54	9.69	4.06	64.59
Manufacturing: Other non-metallic mineral	21612	8.33	58.34	6.41	44.18	142102	7.01	49.71	6.31	21.11
Manufacturing: Basic metals	0	-	-	-	-	7906	0.39	28.71	7.30	100.00
Manufacturing: Fabricated metal products	8666	3.34	37.26	7.81	81.79	71153	3.51	4.81	6.16	59.97
Manufacturing: Machinery & equipment	0	-	-	-	-	13379	0.66	2.33	7.22	57.87
Manufacturing: Electrical machinery & appliances	493	-	-	-	-	9325	0.46	0.00	7.92	37.03
Manufacturing: Radio, television & comms technologies	0	-	-	-	-	4257	0.21	0.00	4.00	7.12
Manufacturing: Medical, precision & optic	0	-	-	-	-	6081	0.30	0.00	5.77	100.00
Manufacturing: Motor vehicles, trailers	1920	0.74	0	5	100	6081	0.30	0.00	6.64	100.00
Manufacturing: Other transport equipment	0	-	-	-	-	4662	0.23	0.00	4.00	0.00
Manufacturing: Furniture	16345	6.30	77.33	7.14	38.25	135210	6.67	52.69	6.90	58.04
Recycling	3165	1.22	0	4	100	6892	0.34	0.00	4.10	100.00
overall	**259474**	**100**	**51.91**	**6.50**	**16.26**	**2027139**	**100**	**42.83**	**6.16**	**15.65**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 2,027,139 (aged under 16) under 12s N = 259474 weighted

Table 4: Industrial Sectors with High Concentrations of Working Children, © **Wholesale / retail sector (all India)**

	Under 12					Under 16				
Wholesale / retail sector	n	%	% girls	mean hh size	% urban residence	n	%	% girls	mean hh size	% urban residence
Maintenance and repair of motor vehicle	3074	4.30	0.00	4.04	3.64	48890	6.03	0.00	5.23	60.08
Sale of motor vehicle parts and accessories	0	0	0	0	0	4378	0.54	0.00	5.00	100.00
Sale, maintenance and repair of motorcycles / parts and accessories	1115	1.56	0.00	7.40	0.00	51728	6.38	0.00	5.80	76.31
Retail sale of automotive fuel	0	0	0	0	0	559	0.069	0.00	8.00	100.00
Wholesale on a fee or contract basis	0	0	0	0	0	7783	0.96	9.97	4.31	57.20
Wholesale: agricultural raw materials, live animals, food, drink, tobacco	6490	9.08	0.00	5.04	4.17	37053	4.57	0.00	5.76	30.71
Wholesale: household goods	0	0	0	0	0	1135	0.14	0.00	4.74	100.00
Wholesale: non-agricultural intermediate products, waste & scrap	1751	2.45	0.00	6.00	100	21729	2.68	0.48	7.17	72.19
Other wholesale	0	0	0	0	0	422	0.052	0.00	5.00	100.00

Non-specialized retail trade in stores	9500	13.29	36.39	6.85	23.00	78321	9.66	24.92	5.65	24.13
Retail sale of food, beverages and tobacco in specialized stores	20815	29.12	28.23	6.71	79.98	307447	37.92	10.09	6.32	42.64
Other retail trade of new goods in specialized stores	16819	23.53	5.81	7.59	61.86	153724	18.96	19.81	5.62	53.62
Retail sale of second-hand goods in stores	0	0	0	0	0	21080	2.6	5.44	6.04	15.77
Retail trade not in stores	114	0.16	0.00	4.00	100	30404	3.75	9.67	6.67	47.70
Repair of personal and household goods	11808	16.52	37.35	5.95	80.56	46133	5.69	11.97	6.50	52.87
overall	**71480**	**100**	**20.53**	**6.53**	**58.9**	**810779**	**100**	**11.65**	**6.01**	**47.05**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 810,779 (aged under 16) under 12s N = 71480 weighted

4.3 Girls Heavily Involved in Tradeables Sectors

In Table 5, which shows each sector's percentage of all child labour, we notice a strong concentration in just six sub-sectors of the tradeables sector.[5] These are agriculture, textiles, retail trade, wood, tobacco, and quarrying i.e. mining of the non-gem non-petrochemical minerals. Girls are prevalent among child labourers in textiles, wood and tobacco, and also present in quarrying and of course agriculture. The feminization of agriculture has led to increasing numbers of girls –and fewer boys and men - working both on-farm and outside the home there. The reasons this matters is that some employers and some observers would argue that if world prices move, especially downward, workers will have to moderate their wage demands in highly globalised sectors such as agricultural or textiles. However, if we consider non-tradeables such as services or construction, then the wage bargaining can (it is implicit suggested) occur without reference to world prices. India's own infliation can be compensated for in service industries, the formal sector where unions lead bargaining and perhaps construction, but real wages are more susceptible to attack in the very industries that are producing tradeables. Cottage production for long-distance value chains removes the wage bargaining from large formal-sector buyer-firms and instead places it in small-scale, household or otherwise informal firms. In using regression we are able to introduce several controls to try to isolate and impact of tradeable sector and informality on the prevalence of child labour. When this is done, the apparent association of 'rural' with child labour switches to a negative regression coefficient. In other words the 'effect' of rural residence is taken up by more direct effects arising from informality and low education, whilst the remaining impact of rurality is to make child labour less likely.

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[5] The tradeables sectors include those which produce goods that are export goods or could be traded on export markets. The reasoning used is that tradeables prices move up and down with world prices once the country's borders have been opened up and subsidies/tariff levels reduced. The tradeables sectors include all food production, along with drinks, tobacco, textiles, footwear, leather, wood, furniture, paper, print, publishing, metal products, and computers along with office machinery. Most of manufacturing is considered tradeable, and hence the category also includes numerous primary and secondary manufacturing sectors, specifically pharmaceuticals, oil refining, rubber, plastics, minerals, ferrous and non-ferrous metals, electrical machinery, ships, communication equipment, motor vehicles and transport equipment, aerospace, instruments and other manufacturing. Among them, the above sectors cover 90-95% of all world trade in goods (OECD *Bilateral Trade Database;* Proudman and Redding, 2001, 21.

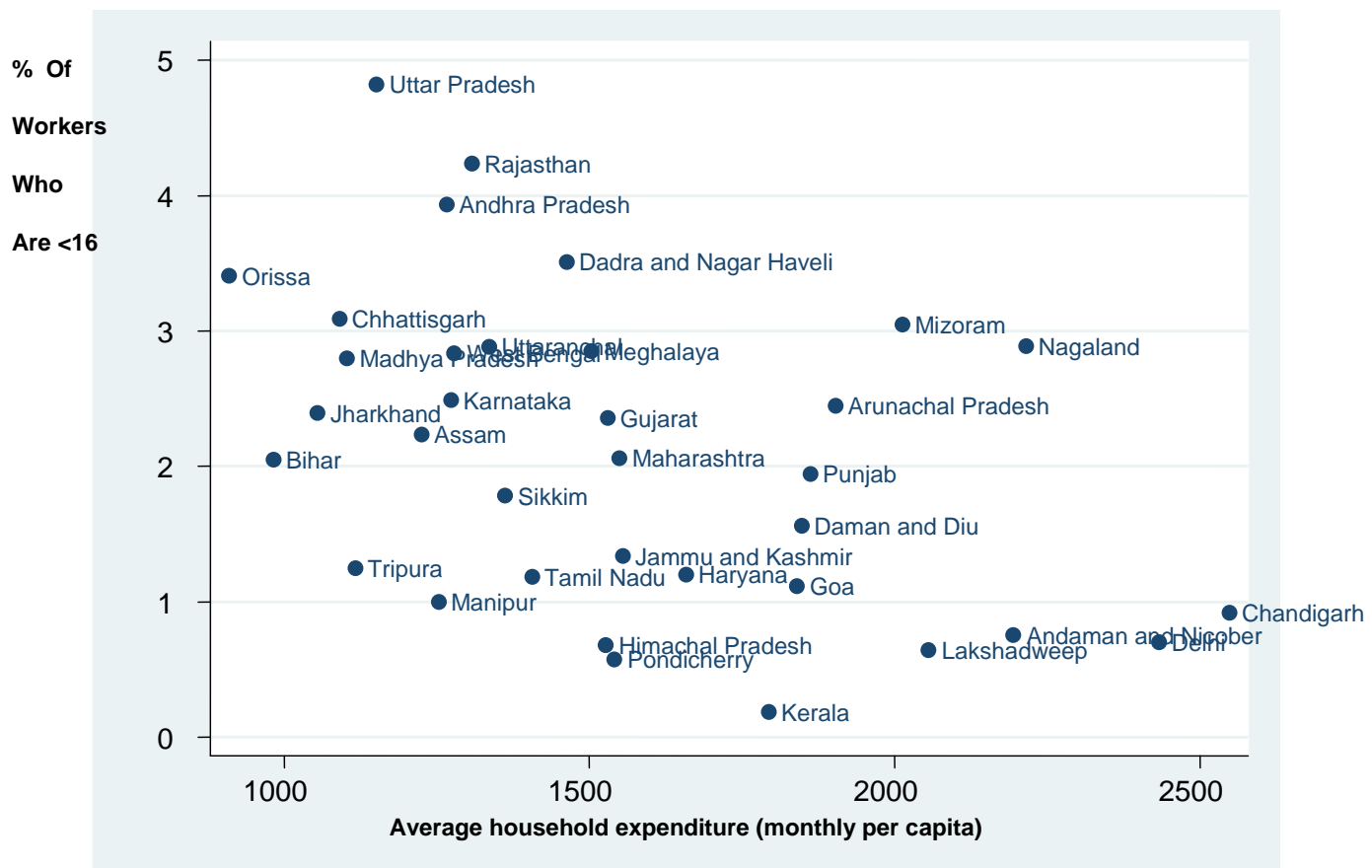Figure 4: High Income of Households Associated with Low Child Labour, All-India Statewise, 2005

Table 5: Involvement of Children in the Production of Tradeable Goods (All-India, 2005)

Tradable goods sector	Under 12		Under 16		Under 19	
	n	%	n	%	n	%
Agriculture and allied	829338	66.71	8475019	67.03	25922352	61.44
Manufacturing: Textiles	71235	5.73	628388	4.97	1729844	4.1
Retail trade of personal & household goods	59052	4.75	637238	5.04	2704464	6.41
Manufacturing: Wood & wood products	57684	4.64	232643	1.84	603336	1.43
Manufacturing: Tobacco products	51095	4.11	304711	2.41	772101	1.83
Manufacturing: Other non-metallic mineral	21632	1.74	141609	1.12	480981	1.14
Manufacturing: Furniture	16286	1.31	135287	1.07	552706	1.31
Manufacturing: Food products & beverages	12432	1.00	168160	1.33	578021	1.37
Manufacturing: Fabricated metal products	8702	0.7	70804	0.56	341750	0.81
Wholesale trade & commission trade	8205	0.66	68276	0.54	261586	0.62
Manufacturing: Clothing; fur	8081	0.65	154252	1.22	793197	1.88
Sale of motor vehicles	4227	0.34	104942	0.83	392379	0.93
Manufacturing: Leather goods	3854	0.31	56896	0.45	168765	0.4
Recycling	3232	0.26	6828	0.05	7173	0.02
Manufacturing: Paper & paper products	2486	0.2	9862	0.08	42191	0.1
Manufacturing: Motor vehicles, trailers	1989	0.16	6069	0.05	46410	0.11
Manufacturing: Chemicals & chemical products	535	0.04	41724	0.33	206738	0.49
Manufacturing: Electrical machinery & appliances	485	0.04	9230	0.07	97040	0.23
Extraction: Crude petroleum & natural gas	323	0.03	329	0.01	325	0.01
Mining: Coal & lignites	149	0.01	5310	0.04	11392	0.03
Mining: Metal ores	0	0	4046	0.03	5907	0.01
Mining / quarrying: Other	0	0	26552	0.21	202518	0.48
Publishing, printing & reproduction	0	0	15172	0.12	67506	0.16
manufacture: coke, refined petroleum pr	0	0	0	0	5485	0.01
Manufacturing: Rubber & plastic products	0	0	10874	0.09	80164	0.19
Manufacturing: Basic metals	0	0	7965	0.06	54849	0.13
Manufacturing: Machinery & equipment	0	0	13908	0.11	80164	0.19
Manufacturing: Radio, television & comms	0	0	4299	0.03	20674	0.05
Manufacturing: Medical, precision & optic	0	0	6069	0.05	9282	0.02
Manufacturing: Other transport equipment	0	0	4678	0.04	24893	0.06
Totals	**1161022**	**93.39**	**11351140**	**89.78**	**36264193**	**85.96**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 36264193 (aged under 19) under 16s N = 11351140; under 12s N = 1161022 weighted

4.4 Allowing for Controls, Tradeables Are Positively Associated with Child Labour

Table 6 shows that the association of child labour with education is the strongest of several known linkages, taking 585 geographic areas of India (NSS Districts[6]) as the unit of analysis. The coefficients show that education, household income, informality and tradeables all have significant positive associations with child labour. (Income is proxied by average household per capita expenditure. In all cases, the averages are taken for all variables in each district.) The appendix tables support the claim that Uttar Pradesh has a number of Districts which have high unexplained levels of child labour. These are some of the largest residuals in the study of N=585 NSS Districts. In most other states, the explanatory power is good or the overall child labour percentage is small. The method used is linear regression with the percentage of all workers who are child labour as the dependent variable. Recall, this varies around 3%. The residuals do not deviate significantly from a normal distribution pattern.[7]

Table 6: Trade and Informality Influencing Child Labour Upward, Regression Findings, All-India, 2005

	Standardised Coefficient	Std Error	T-Statistic
Informality %	0.18 ***	1.30	4.18
Avg. Household expenditure	0.18 ***	0.0004	2.91
Avg. Education level	-0.53 ***	0.13	-8.38
Tradeables %	0.25 ***	0.02	3.53
Rural %	-0.16 ***	0.59	-3.09
Constant	-3.75 ***	1.38	-2.72
N=585, R^2=.32. The regression F is 7 with p<.001, highly significant			

Regression results control for background factors which are obviously going to correlate with child labour. In particular, we expected more child labour to be reported in rural areas, though this raw correlation was reversed due to mediating factors in the multiple regression. We expect fewer child labourers where education is high, and this is the strongest factor shown. The causality of these two associations is two-way, tending to generate a high R^2

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[6] The District sample was created by aggregating individual data upward to summaries for 585 District groups of cases. Districts in the NSS range from 30 to 5000 people in raw sample size (95% of the 585 Districts had a sample size of 140 or more; and the mean sample size was 1,030 people).
[6] The regression F is 7 with p<.001, highly significant. N=585 districts. R^2 = 32%.

Notes: Informality is measured as the percentage of workers who are in the informal sector in that district. Household expenditure is the adjusted per capita spending of an average household in that district. Education is the average years of education of individuals in the NSS survey in that district, including the children. Tradeables is the percentage of workers who are in the tradeable good sectors (manufacturing and trade, but not services).. All districts are weighted by the population of the district. Before aggregation, all individuals were weighted by household non-response adjustment weights.

value. The impacts of culture and wealth are proxied by education. The most original findings in Table 6 show that informality has a strong positive association with child labour, as predicted by Harriss-White and others (2003, 2010), and that there is a positive association with having a large tradeables sector. The positive association with tradeables employment is based, again, on the variable proxying for a variety of factors, some having two-way relationships with child labour. For instance on the one hand, child labour contributes to the production of manufactures and farm products which are the essence of 'tradeables'. On the other, the growth of these areas has perhaps further encouraged child labour. There may be a geographic/sectoral clustering effect which is worth further investigation. Venkateswarlu for example indicates a clustering of girl child labourers in cottonseed production as monocrops for large seed companies (Venkateswarlu, 2007). The regression performance is strong with R^2 of 32% and F of 38 (p<.001) for N=585 districts.

Such regressions suggest further hypotheses to explore over time:

H5. Has growth in particular districts since 2005 been associated with higher or lower growth rates of reported child labour?

H6. Do girls or boys gain more jobs in the tradeables industries when they grow?

H7. Is the informal sector growing or shrinking in the high- and low-growth Districts, and where it grew from 2005 to 2010 was this associated with higher or lower child labour?

H8. Are non-agricultural or agricultural tradeables the driver of change in child labour over time?

Data can be aggregated to District level either for multiple or multilevel regression for 2008 from newer NSS data, and the district level can be matched back into 2005 data to give a useful differencing model during the pre-crisis period. A descriptive, empirical summary of what we found out in the regression is that the high growth rates were associated with child labour being concentrated in tradeables and in the informal sector.

5.0 A Case Study: Hidden Child Labour in Construction

5.1 Bengaluru case study

In Bengaluuru city, University of Manchester PhD student Elizabeth Wardle is doing research on child labour in the construction industry. She sent this report from the field.

Box 1. Case Material From Urban Construction Sites in Bengaluuru[8]

> **Construction work is viewed as being of low social status by all respondents. Boys and girls are found in significant numbers in the most difficult and lowest status construction work: pouring concrete for slabs and concrete block making.**

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[8] We are grateful to Elizabeth Wardle for providing this overview in a field visit report.

> Workers enter construction by seeking work or being offered work through a contractor. All contractors, when interviewed, denied using child labour. Yet children under 14 were found working in all 12 cement block-making units that were studied. Even when standing right in front of the working children, contractors and engineers on constructions sites claimed that they never use children workers.
>
> Besides the cement block-making units, on three other construction sites there were working children who had migrated for work with their families, and in all observed instances (6) children in construction worked in pouring cement slabs. These children were living in tent labour colonies and they worked alongside their families.
>
> In brief, children are very much found in the most demanding, least remunerative, most mobile and thus easily hidden forms of construction work. They work alongside families or with adults from their original villages.
>
> There is reportedly a growing awareness of Karnataka state laws regarding the protection of children, and respondents noted a decline in children working directly in construction over last 15 years.
>
> Cement block making is a relatively new kind of work. It emerged 10-15 years ago but many new block making units were created recently during the construction boom in Bangalore. Block making is organised like brick making, with contract labourers working for piece rates. The prevalence of boys and girls in this sector (children being 20% of the total workforce present). This ratio is important as an empirical finding because the local non-governmental organisations working with working children are unaware of the practice of using child labour. The degree of choice exerted by children in beginning construction work is related to the difficulty of their personal situation and family head decisions. They are subject to the decisions of the head of the migrant family. No child interviewed felt proud of his or her work, and none wanted to continue in the field.
>
> The working children who were interviewed did not like their work. They hoped for change and explained that they began construction work because of family debt or general poverty or lack of options.

Wardle has uncovered a situation of widespread child labour consistent with the national sample survey data. The Bengaluuru IT related boom is part of the causality of the very strong urban construction growth in which these children are playing a part.

Phillips, in a recent study for the Chronic Poverty Research Centre, also finds hugely exploited child labour in garment producing units in Delhi and nearby areas of Uttar Pradesh and Haryana (Phillips, forthcoming; Phillips, *et al.,* 2011). Most of the child garment workers were doing cottage work at home involving threading, embroidery and tailoring. Their work was subcontracted to formal-sector workplaces selling to domestic and international garment markets under official agreements not to use child labour. The labour standards were only being upheld onsite not among the subcontractors. A high proportion (in excess of 60%) of the children reported leaving school due to the pressure to contribute to household income through fulltime paid work. These examples in construction and garment industries illustrate

the urban basis for some child labour, with the hinterland of rural areas providing either children or cottage outsourcing for growing industries.

5. Attempts to Eradicate and Undercut Child Labour

Three main strategies have been used to try to reduce the child labour in India – eradication regulations, standards and conventions, and concerted campaigns including Bridge Schools. Merely having economic growth and rising average incomes has not helped rid India of unfree labour or child labour; in reality some of the workers are providing services to the growing upper middle classes. The banning of unfree labour, first in the Constitution at the time of Independence and later by India's 1976 Bonded Labour Act and the pursuant regulatory actions (ITUC, 2007), has mainly had the effect of making people feel they should hide the child labour from the authorities. In 1986 a law specifically against child labour banned child labour under age 14 in hazardous industries (Boyden and Myers, 19950. Some of the worst forms of unfreedom are now hidden from public view (ITUC, 2007; Save The Children UK, 2007, Human Rights Watch, 1996). In 2006 a further tightening of the law on child labour brought additional sectors into the purview of law (BBC, 2006).   The high degree of both rural and urban informality tends to block some of the laws affecting employers from taking effect.   The very informality that makes agriculture and cottage industry so flexible, responsive, and compliant with the needs of wholesale buyers (and able to adjust supply across seasons, product lines, and quality levels for the domestic vs. export markets) is the thing that makes it hard for adult labour to be substituted for child labour (Examples in Weiner, 2006).   The employers prefer the cheap labour. Many families also prefer to have both adults and children working. Once this gets entrenched, children's dignity depends on continuing to work, rather than on education, and even if children are rescued they may tend to return to paid work (Olsen & Ramanamurthy, 2000).

Changing labour standards and conventions in cottage industries has been attempted in many ways, such as SEVA organising beedi cigarette rollers and NGOs trying to ensure that cotton production meets national and international labour standards. In the cotton seed industry there is little attempt either on the State's behalf to regulate labour, or on the employers' behalf to introduce corporate social responsibility. However in the area of organic cotton, Marks & Spencer and Ikea have tried to get their suppliers to follow codes and conduct activities to empower women and reduce child labour in one large region of northeast Andhra Pradesh (Dacorta and Venkateswarlu, 2009).   The attempt is carried out at third-hand, because M&S and Ikea are funding the initiative but their staff delegate tasks to Indian companies which then influence the district-level farmers chosen to act as suppliers. Labour unions are discouraged but women's microfinance and women's groups are encouraged (ibid.). In several ways the conventions approach tends to face difficulties in India. Firstly there is the fourth-tier nature of the labour market for the child labour. Secondly the employers can argue that wages must be low to keep them competitive. (This is a feature of the specific discourse of neoliberal thinking, which one need not accept. But this trope that limits resistance has trickled down into local areas.) Thirdly there are gender and ethnic inequalities which continue even if a labour standard is introduced for one segment of workers. Fourthly the informality of the use of labour is so great, change so rapid over seasons and years in the economic structure, that casual labour are widely expected to move from job to job so that gains achieved in one bargaining situation are often lost within the context of disruption for migration, seasonal job switch, revisits to village, and changing the intermediaries. Finally it is difficult to maintain trust in the labour intermediary unless the worker is prepared to make sacrifices on the wage-rate, and adults are often expected to

provide child labour as part of the deal they make when they become seasonal bonded labour (Reddy, 2002). Picherit (2009) illustrates by shadowing migrant construction worker families and observing caste inequality being reproduced with active submission of the lower caste casual workers to discipline and exploitation by the intermediaries from lower-middle to middle castes). The corporate sector is also very small in India, so the impact of externally imposed labour standards is inevitably indirect, slow and small relative to the whole of India's labour market.

In recent years new, enticing opportunities for appropriate schooling known as Bridge School have been used to try to attract migrant children, children of bonded labourers, and child labourers back into formal schooling. The government of AP has a plan (GOAP 2009). A review of the curriculum for the Bridge School training is promised as part of the plan but it is mainly about delivering hundreds of new Bridge Schools and a continuation of the old ones in the State. It is not clear whether all child labourers get the training or whether the training is more widely available (hence less targeted than was intended). For example in the linked procedural documents, which act as guiding documents for the Andhra Pradesh Social Welfare Residential Schools there is clear guidance to have a target of 75% Scheduled Caste (i.e. Dalit) children in each school, but there is no requirement that this huge set of schools act as migrant bridge schools. The Bridge School scheme began as a Government scheme at the state level, later became a national scheme, obtained support of ILO and UNDP as well as State governments, and has grown rapidly in states like Andhra Pradesh and Karnataka which are the place of origin of many out-migrants. The Bridge Schools in the home areas aim to keep the workers back at the home village. At migrant destinations it is much harder to school the children as there are language barriers. Some children of urban itinerant bonded labourers do attend regular urban schools. The *Bridge Schools* initiatives. They vary in their linguistic, curriculum, gender and free lunch aspects from place to place (India Literacy Project, 2010a to 2010e; MVF, 2005; Zutshi, 2004; APOnline, 2010). Both the ILO and DFID have been involved in supporting these schemes (GOAP, 2008; ILO, 2005). See http://labour.ap.gov.in/ilo.jsp for an overview of the anti-child labour project in Andhra Pradesh (accessed November 2010). This large project has campaigning aspects, regulatory aspects (in the sense that it forms the basis for funding of Labour Inspectors), training aspects and attempts at social marketing to popularise the idea that it is unwise to take your child out of school. They have even used stickers as a campaign tool, placing them conspicuously in restaurants and hotels after the 2006 legal tightening, although there is poor and partial enforcement.

6. Conclusions

The children of a country like India can be seen in two ways. They can be seen instrumentally as a means of achieving higher productivity, as bearers of human capital, and as an instrument to reach growth. An alternative view places the economy in the service of human beings, so that children are part of the purpose and target of development rather than merely a means to growth. This fundamental difference of perspective cannot easily be resolved, but a close look at the three sets of policies to eradicate child labour indicate that one's perspective is crucial. Firstly, (a) regulations alone tend to place children's needs as tangential, and the economy (i.e. employers) central to policy. Children are to be protected, but the policy fails by mimicking the regulatory regimes of formalized economies and not recognizing the informality of the scene most child labour live in. (b) Changing labour standards and conventions is a method which, again, places employers centre stage and sees

children as merely economic tools. Ironically the corporate social responsibility (CSR) approach pits the company-as-profit maker motive against its own company-ethics division and this can seem incoherent unless the human development approach is taken seriously. To avoid a contradiction, one needs to take a political economy perspective. (Described well by DaCorta (2009), a political economy of rural development for example would avoid making any neoliberal assumptions and it would not see labour simply in terms of labour markets [demand & supply] but in terms of human development.) Proponents of CSR implicitly hope that a post-development perspective will be taken up first within the large firms. However, again, the great informality of India's economy in particular makes it hard to see how we can expect large employers to influence the experience of the mass of children in their tiny firms and farms. Evidence in this paper suggests that producing tradeable goods itself is associated with child labour, so export chains are fundamentally injuring many children even if they help some others. (c) Finally looking at the Bridge School scheme, this comes closest to addressing what children's needs are, but the approach raises questions regarding the extent to which education can, of itself, precipitate widespread change in the availability and accessibility of opportunities. Up to now the schools' management has been hierarchical, formal, and bureaucratic, and has not involved children as agents, as far as can be told from the programme documents. Many schools routinely distribute free lunches and thus act as partners to noon meals schemes. In this sense they are quintessentially public sector activities. Bridge Schools are now worth an extended and careful evaluation given that there are tens of thousands of them across many states. However other variants of policies are being tried across India through collaborations of Government, international and local NGOs, and local partners.

Overall the structure of government policies sets the context for wage bargaining in – and affecting - the informal sector. In a strongly informal economy, some profound and wide-ranging policy interventions (such as Bridge Schools) are needed when labour law has itself only indirect impact and is widely unenforced. A neoliberal conception of the role of government will not be adequate to the challenge of unfree labour. The case of India illustrates this point.

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Appendix Table A1: Labour Engaged in each Industry Sector, by Age Group (All India, 2005)

Industry Sector	under 12s	%	12 to 15	%	16 to 24	%	25 to 59	%	60 and over	%	Totals	%
	n	%	n	%	n	%	N	%	n	%	n	%
Agriculture, hunting & forestry	765857	0.190	7537641	1.870	43170126	10.71	160950806	39.93	20315353	5.040	232739784	57.74
Fishing, fisheries, and allied	4031	0.001	20154	0.005	278127	0.069	927090	0.230	92709	0.023	1330172	0.330
Mining & quarrying	0	0.000	36277	0.009	403082	0.100	1854179	0.460	36277	0.009	2297570	0.570
Manufacturing	257973	0.064	1773563	0.440	11810315	2.930	31924127	7.920	1894487	0.470	47684649	11.83
Electricity, gas & water supply	0	0.000	0	0.000	44339	0.011	1048014	0.260	8062	0.002	1088323	0.270
Construction	4031	0.001	403082	0.100	5764078	1.430	15800830	3.920	725548	0.180	22733848	5.640
Wholesale, retail trade or repair	64493	0.016	725548	0.180	7577949	1.880	26200357	6.500	2015412	0.500	36599883	9.080
Hotels & restaurants	32247	0.008	233788	0.058	1088323	0.270	3506817	0.870	274096	0.068	5119147	1.270
Transport , storage & communications	4031	0.001	104801	0.026	3063426	0.760	12173089	3.020	302312	0.075	15639598	3.880
Financial intermediation	0	0.000	0	0.000	282158	0.070	2216953	0.550	40308	0.010	2539419	0.630
Real estate, renting & business activities	0	0.000	44339	0.011	604624	0.150	2982810	0.740	185418	0.046	3788975	0.940
Public administration & defence	0	0.000	0	0.000	257973	0.064	7013634	1.740	76586	0.019	7336100	1.820
Education	0	0.000	16123	0.004	1370480	0.340	8263189	2.050	161233	0.040	9794903	2.430
Health & social work	0	0.000	4031	0.001	390990	0.097	2620036	0.650	128986	0.032	3144043	0.780
Other community & social service activities	24185	0.006	181387	0.045	1370480	0.340	4998222	1.240	644932	0.160	7215175	1.790
Private household paid employee	12092	0.003	205572	0.051	725548	0.180	2781269	0.690	286189	0.071	3990516	0.990
Extra territorial organizations & bodies	0	0.000	0	0.000	0	0.000	4031	0.001	0	0.000	4031	0.001
totals	**1168939**	**0.29**	**11286307**	**2.800**	**78157679**	**19.39**	**285261422**	**70.77**	**27208063**	**6.75**	**403,082,410**	**100**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 403,082,410 (all India sample undertaking market labour) weighted.

Appendix Table A2(a): Rurality and Sex of NEET Children and Child Labour, **(all India, 2005)**

Employment status	under 12s					under 16s				
	n	%	% girls	mean hh size	% urban residence	n	%	% girls	mean hh size	% urban residence
Not in education, employment or training	25599166	16.28	52.62	6.77	12.92	36694377	14.86	58.00	6.70	14.49
In school	130425384	82.94	46.11	6.41	22.93	197596505	80.02	45.32	6.30	24.24
Paid work	298780	0.19	43.10	5.96	24.40	5111532	2.07	36.91	5.73	20.35
Self-employed	157253	0.10	52.88	6.40	24.55	888962	0.36	46.88	6.24	23.88
Unpaid helper in household enterprise	772111	0.49	55.17	6.74	11.29	6642522	2.69	46.84	6.49	10.91
overall	**157,252,693**	**100**	**47.22**	**6.47**	**21.25**	**246,933,898**	**100**	**47.08**	**6.35**	**22.35**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 153,164 (all India under 16s) under 12 N = 97,538 weighted

Table A2(b): Rurality and Sex of NEET Children and Child Labour **(Andhra Pradesh State only)**

Employment status	under 12s					under 16s				
	n	%	% girls	mean hh size	% urban residence	n	%	% girls	mean hh size	% urban residence
Not in education, employment or training	528439	5.25	60.4	5.35	26.76	985710	6.04	71.09	5.36	25.45
In school	9364943	93.04	47.69	5.20	24.84	13762402	84.33	46.44	5.13	25.89
Paid work	70459	0.7	65.55	5.40	8.65	949806	5.82	48.96	5.05	16.61
Self-employed	28183	0.28	47.53	5.18	0.33	73439	0.45	53.21	5.29	6.52
Unpaid helper in household enterprise	73478	0.73	52.79	5.38	4.63	548342	3.36	46.57	5.12	10.00
overall	**10,065,502**	**100**	**48.52**	**24.61**	**5.18**	**16,319,699**	**100**	**48.11**	**5.14**	**24.7**

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment) N = 16,319,699 (Andhra under 16s) under 12s N = 10,065,502 weighted

Appendix Table A3: Means of Key Variables, State Level

Appendix Table A4: Means of Regression Variables

	Mean	S.E.	95% Confidence Interval		
Informality %	0.34	0.00	0.33	-	0.35
Avg. Household Expenditure	1313.06	26.48	1261.04	-	1365.07
Avg. Education Level	-0.13	0.06	-0.25	-	-0.01
Tradeables %	73.96	0.59	72.80	-	75.12
Rural %	0.66	0.01	0.63	-	0.68
Child labour (15 & under)	2.83	0.12	2.60	-	3.06
Child labour (under 12s)	0.30	0.03	0.25	-	0.36
District	1.66	0.09	1.48	-	1.85

Data source: All India NSS round 61; schedule 10 (Employment and Unemployment)
n = 585 geographical districts