Child Labour in Industrial Outworker Households in India

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Child labour is widespread in home-based manufacturing activities in the informal sector in most developing countries. However, very little is known of child labour in industrial outwork. The aim of this paper is twofold: on the one hand, to understand whether children in home-based work households are more likely to work than other children and, if so, how this impacts their capabilities; and, on the other, to outline policy implications for India. This paper draws on ad hoc surveys and a country study carried out in India. It examines the incidence of child work in such households, the child's schooling, and reasons why children are working, their work conditions, and gender issues. Econometric analysis is applied to analyse the determinants of child activity status. Policy implications are spelled out at the end.

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One of the most understudied areas in informal sector activities in developing countries is that of home-based manufacturing activities,[1] and labour in home-based work has been even less studied. But attention to these issues is growing internationally, as manifested in the ILO Convention on Homebased Work (1996). The ILO Convention No 177 on Home-based Work (1996a) defines home work (hw) as "work carried out by a person (i) In his or her home or in other premises of his or her own choice, other than the workplace of the employer; (ii) For remuneration; (iii) Which results in a product or service as specified by the employer, irrespective of who provides the equipment, materials or other inputs used…" (ILO 1996a). The term "homeworker" (or industrial outwork) is used to refer to a subset of home-based workers: industrial outworkers who carry out paid work from their home, for firms or businesses or their subcontractors, typically on a piece rate basis. They are involved in labour-intensive activities especially in textiles, garments, and footwear manufacturing industries and in artisanal production (Baden 2001).

1 Introduction

Despite the scarcity and low estimates of official data, small-scale studies over the past decade have documented the scope of home-based work. It is estimated that there are 250 million home-based workers, including 200 million from the poorest families (WIEGO 2000; HomeNet 1999). A national survey conducted in India in 1999 which tried to document home-based work was an indicator of the growing awareness about this problem. The 55th Round of the National Sample Survey (July 1999-June 2000) – the first-ever nationwide survey on informal sector non-agricultural enterprises – showed that the total number of informal workers in non-agricultural enterprises was 79.7 million, 30 million working from home (Sudarshan et al 2001; NSSO 2000). According to the data of 2004/05 this number had increased slightly and the share of female workers enlarged (Nceus 2007; Unni, Jhabvala and Sinha 2007). Indeed, a characteristic of this labour force is that the vast majority of these homeworkers (hwers) are women. Responding to increasing national and international competition, firms use hwers to externalise production in order to cut costs and minimise risk (Gereffi 1994; Kaplinsky et al 2001; Carr et al 2000. The result is the simultaneously increasing informalisation and feminisation of the labour force in developing countries (Carr and Chen 1999; Charmes 2001; UNIFEM 2000).

Data on the scope and magnitude of labour, although growing,[2] is quite limited in most countries, and information about the scale of hw is even scarcer. This fact makes hw of women, and especially of children, "invisible", at least for policymakers. There is no available research on labour in hw that we are aware of. We conceived, designed and commissioned five country studies in Asia of subcontracted hw in manufacturing (India, Pakistan, Thailand, Indonesia and the Philippines). They involved surveys to examine the work and the condition of women and children in hw economic activities in informal manufacturing.

The aim of this paper is twofold: on the one hand, we examine hw children, how these activities affect their well-being in terms of education and health (capability deprivation, see Sen 1999; UNDP 2003) and if they are more likely to work more than other children; on the other hand, we outline policy implications.

This paper is based on the analysis of data and information collected over 2000 to 2001 – through household surveys, household focus group discussions, and case studies – carried out in the five countries. For this paper we focus our attention on India where the level of exploitation and deprivation of capabilities is quite widespread. (For the cross-country analysis for five countries, as well as the individual country studies, see Mehrotra and Biggeri (2007)). Section 2 introduces the main characteristics of hw activities and a theoretical framework for the economic analysis, to understand if these activities in the home influence the work participation of children. Section 3 briefly presents the research design and sample design, some features of the sectors selected and characteristics of hwer households. Section 4 presents the main findings related to work in hw households, schooling, the reasons why children are working and their work conditions. These data are compared with non-hw households. Section 5 examines the determinants of child labour status in hw households through a multinomial logit analysis. In the last section, policy implications are drawn for human development of hwer households and to reduce child labour and increase children's capabilities.

2 Child Labour in Industrial Outwork and Human Development

Hw offers several advantages to families at the micro level. Above all, it offers employment and hence an opportunity to enhance and diversify their income; it also saves workers' travel time and they can perform other activities in addition to hw. For men, such other activities usually include another economic activity (e g, farming in rural areas or periodic wage work), and for women it normally implies the performance of their reproductive and domestic role, while also contributing to family income through hw. Hwers can gain specific skills in producing goods at home, increasing the human capital available at the household level and at the local level. The work and experience can eventually trigger the entrepreneurial capabilities of some workers/subcontractors, and home-based activities, at least among men, can progress into subcontracting, and could possibly result in the start-up of a small enterprise (Prugl and Tinker 1997). At the local level this can improve the system of production through cluster development (Mehrotra and Biggeri 2005).

These advantages can mask severe disadvantages for the hwer. In conditions of excess supply of labour, piece-rates (the normal form of payment in hw) can be low, and thus the share of hwers in the value chain would be extremely low. In many cases piece-rates are low despite the fact that hwers, in some cases, are very highly skilled workers (Mehrotra and Biggeri 2006). Work conditions can be very exploitative especially if there are few alternative income earning opportunities in the area or if work is available only as bonded labour. The exploitation of the hwers by local employers can be just a first step in the exploitation through the global value chain (Carr et al 2000; Mehrotra and Biggeri 2007).

Furthermore, the hw household has to cover some production costs and associated risks – including, buying or renting and maintaining equipment; providing workspace and paying for utility costs; and buying some inputs – often without help from their employer. These activities are also often dangerous in terms of health in the first place for hwers, and in the second instance, for other members of the household since the activity is done in the home.

In order to explain the specificity of hw households we propose a simple theoretical approach where the household decides the allocation of children's time between work and school. We assert that households incur fixed costs both in sending their children to work and to school. For instance, some of the fixed costs are related to the travel costs (both direct and indirect) that the child would bear to reach a place where she/he can be employed or attend school (plus the usual fixed costs such as books, meals, stationery, uniform). Other relevant fixed costs are the transaction costs in which parents are involved (travelling to find a job or queuing for daily jobs as "casual labour"). In the case of work, these fixed costs are related to the availability (or not) of jobs in the area, to the social networks (or "social capital", if you will) of parents within the community which gets them and the children jobs. Fixed costs also arise due to the indivisibility of external work contracts due to time scheduling and duties constraints, i e, home-based work can be shared among household members, which is not possible in an external work contract by virtue of its being performed outside the home.[3] The cost of work outside the home may also be purely psychological, in the sense that the parents may fear that the child may be maltreated, beaten or exploited by an employer when working away from home. In the case of girls, parents are particularly concerned about their security, especially as they grow older (as the literature on the life of domestic servants has emphasised). Another factor in the decision whether to send a child only to school, to work and study, only to work, or to be "idle"[4] is that the returns to work and to school are often very low.

We argue that the fixed costs of finding a job are drastically reduced for the children if a household is involved in a small family business (especially if residing in an area where the labour market is very slack).[5] Furthermore, for a low income household that is engaged in a traditional home-based activity and in a situation where there is a lack of other opportunities, lower risk is perceived in enabling children to become a part of the home-based workforce. Therefore, children in hw households, given the same conditions, have a higher probability than other children to be in the

"only working" or "working-and-studying" categories. This is because, as we saw above, there are fixed costs associated with sending a child to work outside the home that would offset the returns to that work. Labour at home reduces fixed costs in finding an outside job for children, changing parental opportunity costs and thus the decision to send children to school and/or to work.

It has been observed that the returns to work are influenced by the age and by the sex of the child. As age increases the returns to (manual) work increase as well, and in general the returns of male children tend to be higher than for female. The returns to and the fixed costs of work are influenced also by the labour market and by the institutional framework. The age of the child also affects the fixed (and variable) costs for schooling since attending school becomes more expensive as the child moves beyond primary education. The returns to education and the fixed costs in attending school are influenced by the quality of the school and its relevance in the development of the local economic system. Therefore, an increase in the return to work (or a reduction in the fixed costs of work) will make it more likely that a child would work and less likely that he would attend school. Analogously, an increase in the return to education (or a reduction in the costs of accessing schools) makes it less likely that a child is in the "idle" category.

3 Research Design and Sector Characteristics

Both quantitative and qualitative[6] methods were adopted for each national study on subcontracted hw by women and children. The quantitative method involved ad hoc household surveys, based on a core questionnaire designed by the second author (which was adapted for country conditions). The questionnaire was divided into eight different sections on social, economic and non-economic activities.

The units of the statistical population surveyed are the households engaged in hw. This population is active in the informal economy and thus very often "invisible" to official statistics. It would thus be impossible to prepare a list of households engaged in hw (including in a given sector for all the country). Also, for this reason, the design of the sampling had to follow a specific method taking into account the information already available.

We had information a priori that the hwer households involved in manufacturing are generally clustered, on the basis of the type of goods being produced. A second characteristic, very important for the sample design, is the degree of socio-economic homogeneity of hwer households which is very high within each sector/cluster. This emerges in the literature, and also in our FGDs (e g, in respect of income, size) (Sudarshan et al 2001). The homogeneity of the hwer households (in terms of economic characteristics) within each cluster and in each location is very strong (even the non-hwer households share similar economic characteristics, e g, on average, they had only a slightly higher income level).[7] The reduced variability diminishes the importance of the dimension of the sample size and increases the importance of the selection method.

For these reasons, data collection was based on a multistage sample model with three stages.[8] The first was to choose a large and easily identifiable group in the statistical population, i e,

households engaged in hw. The secondary sampling units – sector/clusters – were selected by national experts while the third sampling units, the households, were selected randomly or quasi randomly (e g, through snowball technique (McCormick and Schmitz 2002). The representativeness of the sample is due to the homogeneity (tested, see note 8) of the units within the cluster and, furthermore, by the fact that often the interviews covered a large part of the cluster units.

Considering that there are hundreds (or even thousands) of clusters of hw activities in each country – even if a list of these were available (and this is not the case) – a pure random choice is not the right way to proceed. This is the reason for the small number of clusters selected for the ad hoc micro-surveys in each country. For this reason, the best way to proceed is to ask expert "privileged observers" to identify the sectors/clusters to be surveyed (Fabbris 1990). The sector/cluster selection probability is connected to the "probability" of the experts correctly identifying those specific sector/clusters for the survey. Further, in each country the researchers sought advice from a number of experts from different institutions (local agencies, NGOs, workers' association, researchers, government authorities) representing different categories of interest in order to compensate for an eventual bias in "privileged observer" selection.

In India, thus, the first step was to choose three sectors: bidi, incense stick (agarbathi) and garment (specifically, zardosi[9]) manufacturing. In the second step, the above mentioned experts identified the locations of the clusters in different/distant states (Uttar Pradesh, Karnataka, Tamil Nadu and Madhya Pradesh) of the country to capture the different characteristics among Indian states. The samples obtained can be considered representative for hwer households for the three selected sectors.[10] The data collected are used in the micro-econometric analysis in support of the theoretical discussion.

Since the survey method was conceived to collect relevant social and economic data (especially about women and children) on hwer households only, it presented two limitations. It did not allow for comparison with non-hwer households and it did not measure the number of women/children working as hwers and the share of hwers in child labour at the national level. Therefore, in order that at least some comparisons could be made, a control group (CG) of households in the same geographical area not engaged in hw (with no family member working in any home-based activity) was included in each sample. The CG consisted of households chosen randomly in the same neighbourhood (or cluster location) as hwer households. If the area was rural, households from the same/neighbouring village were included; if urban, from the same neighbourhood. As already mentioned, the survey data shows they had roughly the same income level. The sectors/clusters locations selected, the sample size and the number of households interviewed are presented in Table 1 (p 50).[11]

The survey results conducted in the five above-mentioned countries highlighted important differences in terms of socio-economic level of hwer households between South Asia and South East Asia (Mehrotra and Biggeri 2007). In South Asia, hwer is a survival activity to stave off destitution. In India, more hwer

households are below the poverty line than the average for the population of that state.[12] In south-east Asia, the relatively higher social and economic level of hwer households is reflected in their income level being often above the poverty line (Mehrotra and Biggeri 2007).

4 Children's Work in Homeworker Households

Hwer households are highly vulnerable because of the absence of any form of social security. Given the low piece rates and the long hours worked, it is hardly surprising that the children in the households work with their parents.

Incidence of Child Work

The 50% incidence of child labour in hw households from the survey data is much higher than the incidence of child labour on a national scale in India, which in 2000 was 12% (for 10 to 14 year-olds).[13] Furthermore, the incidence of children working in hw households is much greater than in CG households (15 is the legal minimum working age), even controlling for income. For instance, the share of children (aged 5 to 14) working in the hw households is 32% while hardly any children in the CG households are working (2%). This confirms the theoretical framework presented in Section 2 which indicates that children in hw households are more likely to work since, as we will see, they are involved in hw activities. Over 80% of the children working in hw households are involved in hw, indicating that the low transaction costs of working in the home seems to act as an incentive for children engaging in hw.

Though a quarter of *all children* aged 5 to 14 in hw households work in the home-based activity, there is, however, an age-related difference. The share is much smaller among the younger children (5 to 10 years old), than among the older ones (11 to 14

year-olds) – 13% as against 44% on average across all sectors studied (Table 2).

In households where the children were working as hwers, the family was asked what effect there would be on the household if the child were to stop working. As many as 58% of the households felt that their living standards would decline; 8% felt that the household could not survive without the child's contribution to household income. Furthermore, among the reasons as to why children are working (not in school) in all sectors, a very high response was recorded against "school or studies not interesting" as the reason. Prima facie, this raises questions about the quality and relevance of schooling. Another important reason given (a fifth of the respondents) is that they cannot afford to send their children to school.

4.1 Child Schooling

The literature on child labour refers to four categories of activity status of children: only working, only studying, working and studying, and neither working nor studying (Table 3, p 51). Work (whether home-based or outside the home) here refers to work other than household chores. The majority of children (young and old) study and only a minority of children work.

Among the younger children, three-fourths are attending school (as opposed to just enrolled) in hw households (given by the sum of s and sw). Among older (or upper-prSimary level children), the share of children attending school fell (to 59%) – which is exactly as might be expected from the national trend (Table 3). Across the sectors studied, attendance was the highest among children of bidi worker households; dropout was also the lowest. The higher share of children of bidi workers in school may be due to the activities of the Bidi Workers Welfare Fund, which provides scholarships; in addition there have been special efforts such as the CLASS programme of the Tamil Nadu government.[14] Despite this general picture, bidi is also the only sector in which bonded labour was still encountered by this survey. Better monitoring is needed to see that existing schemes are availed of in remote rural areas and to remove the variations observed in the level of information about the schemes.

There are some gender differences. Of all young girls in hw households, two-thirds are studying full-time, the same proportion as all young boys. While 17% of the younger boys are working, 21% of the younger girls are doing so. The proportion (48%, given by the sum of W and sw in the table) of all older boys working is also much lower than for older girls (60%)

Table 1: Surveys on Homeworkers Households in India: Sectors, Location, Households Surveyed, Number of FGDs and Case Studies

Sector	Location	Households Surveyed			Urban		Rural		Number of FGD*			Number of CS
		Total	HW	CG	HW	CG	HW	CG	Total	Urban	Rural	
Incense stick making (Agarbathi)	Bangalore District, Karnataka	201	153	48	78	23	75	25	3	–	–	2
Bidi (MP+TN)	MP+TN	201	151	50	91	25	60	25	2	–	–	3
Bidi (MP)	Indore District, Madhya Pradesh	101	76	25	76	25	–	–	–	–	–	–
Bidi (TN)	North Arcot Ambedkar District, Tamil Nadu	100	75	25	15	–	60	25	–	–	–	–
Zardosi	Lucknow District, Uttar Pradesh	201	148	53	58	12	90	41	2	–	–	4
Total		603	452	151	227	60	225	91	7	–	–	9

Dash indicates that certain information was not collected in the survey or data were not comparable.
FGD = Focus Group Discussion; HW = Homeworkers households; CS = Case studies; CG = Control Group or Non-hw household.
* Considering separately the one for women and the one for children.
Source: UNICEF survey.

Table 2: Share of Children Working by Age Group in hbw Households (I = 5 to 10; II = 11 to 14)

Sector	Total Children			% of Children Working			% of Children Working in hbw			% of Children Working in hbw on Total Children Working		
	Total	I	II	Total	I	II	Total	I	II	Total	I	II
Incense stick making (Agarbathi)	207	136	71	16.4	6.6	35.2	8.7	5.1	15.5	52.9	77.8	44.0
Bidi (MP+TN)	185	101	84	33.0	19.8	48.8	29.7	19.8	41.7	90.2	100.0	85.4
Bidi (MP)	90	46	44	46.7	34.8	59.1	42.2	34.8	50.0	90.5	100.0	84.6
Bidi (TN)	95	55	40	20.0	7.3	37.5	17.9	7.3	32.5	89.5	100.0	86.7
Zardosi	239	128	111	44.4	21.1	71.2	38.5	16.4	64.0	86.8	77.8	89.89
Total	631	365	266	31.9	15.3	54.5	26.1	13.2	44.0	82.1	85.7	80.7

The children under five are not counted in this table.
Source: UNICEF survey.

Table 3: Work and Study Status of Child by Age and Sex (%) – hbw Households

Total	Age 6 to 10				Age 11 to 14			
Sector	W	S	SW	N	W	S	SW	N
Incense stick making	3.9	78.4	4.9	12.7	23.9	47.9	11.3	16.9
Bidi (MP+TN)	2.4	70.6	21.2	5.9	14.3	48.8	34.5	2.4
Bidi (MP)	5.4	48.6	37.8	8.1	13.6	38.6	45.5	2.3
Bidi (TN)	0.0	87.5	8.3	4.2	15.0	60.0	22.5	2.5
Zardosi	13.8	48.6	10.1	27.5	48.6	18.9	22.5	9.9
All	7.1	65.2	11.5	16.2	31.2	36.1	23.3	9.4
Male								
Incense stick making	4.7	79.7	4.7	10.9	30.6	50.0	5.6	13.9
Bidi (MP+TN)	0.0	63.6	31.8	4.5	18.2	50.0	29.5	2.3
Bidi (MP)	0.0	42.1	52.6	5.3	20.8	41.7	37.5	0.0
Bidi (TN)	0.0	80.0	16.0	4.0	15.0	60.0	20.0	5.0
Zardosi	9.6	48.1	3.8	38.5	32.6	26.1	26.1	15.2
All	5.0	65.0	11.9	18.1	27.0	41.3	21.4	10.3
Female								
Incense stick making	2.6	76.3	5.3	15.8	17.1	45.7	17.1	20.0
Bidi (MP+TN)	4.9	78.0	9.8	7.3	10.0	47.5	40.0	2.5
Bidi (MP)	11.1	55.6	22.2	11.1	5.0	35.0	55.0	5.0
Bidi (TN)	0.0	95.7	0.0	4.3	15.0	60.0	25.0	0.0
Zardosi	17.5	49.1	15.8	17.5	60.0	13.8	20.0	6.2
All	9.6	65.4	11.0	14.0	35.0	31.4	25.0	8.6
Non-hbw Households (Control Group)								
Total								
Incense stick making	2.6	87.2	5.1	5.1	5.0	60.0	10.0	25.0
Bidi (MP+TN)	0.0	100.0	0.0	0.0	0.0	95.0	0.0	5.0
Bidi (MP)	0.0	100.0	0.0	0.0	0.0	88.9	0.0	11.1
Bidi (TN)	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
Zardosi	2.6	82.1	0.0	15.4	9.5	28.6	0.0	61.9
All	2.2	87.1	2.2	8.6	4.9	60.7	3.3	31.1

Ages follow Unesco guidelines.
W = go to work; S= go to school; SW = go to school and work; N = Neither go to school nor work.
Source: UNICEF survey.

– suggesting that the feminisation of hw, discussed in the previous section, begins early in the life cycle of the girl-child. This is clearly dependent on the type of sectors we selected and which are female intensive.

Of those children not attending school among hw households, a third stated that "lack of money" was the main reason for not attending school. The higher proportion of working children in hw households (than in the cg) appears to be a function of having income earning opportunities available at home; "family tradition" was given as an important reason for doing hw such as in incense sticks and garment embroidery. The FGDs show that the primary reason for children working is to pay school fees and earn pocket money.

4.2 'Neither Studying Nor Working': What Are They Doing?

In hw households the share of the "older" children "neither working nor studying" is lower since they can work in hw activities compared to the cg (Table 3). This child status is quite ambiguous since it includes children really "idle", children who have never been to school or have dropped out from school or children who are disabled, temporarily looking for a job or doing intensive household chores (Biggeri et al 2003). Household chores, although not accounted as child labour, can significantly affect children's other capabilities (Biggeri 2003) to be educated, to have leisure time, etc. Based on the survey data, several observations are possible about this category of children. First, about 16% of the younger children, and less than a tenth of older children, are in the "neither" category. Clearly fewer of the older children are in the neither category, since they start working in hw as they

grow older. Second, within the "neither" category the vast majority reported they were "not doing anything". However, this is misleading, since the survey also provides information about the time allocation of children in the "neither" category, i e, those who are not engaged in work, hw or otherwise. Their time allocation, outside of sleeping and eating hours, are as follows: food preparation; housekeeping work; animal husbandry, fetching drinking water, shopping, and childcare (Sudarshan et al 2001). These activities, common in most Indian communities, reflect a low economic status of the household.

4.3 Contribution of Child Work and Its Impact on Child Schooling and Health

There are two issues in respect of the hours that children work: how it affects their schooling (assuming that they combine schooling with work) and other capabilities; and how important the work is relative to the total hours worked by the family. Table 4 presents the hours worked per day, based on a six-day week, for all children – whether they only work or work and study. The average contribution for the three sectors taken together is over 13% of the total number of hours worked by the household members on hw. The younger children on average worked 2.9 hours per day, and the older children 4.3 hours.

Between the ages of 11 and 14, girls seem to be spending more time than boys on hw (though there is no clear pattern for younger children). If the children are enrolled in school, the number of hours worked would ordinarily interfere with schoolwork. One can be certain that over 20 hours of work a week would interfere with school achievement, since working over "half-time" can be a risk factor. It is possible that the effects of work on learning achievement begin even at 15 hours of work outside the home (Heady 2000).

What is perhaps more important is that among the young and older children who are at school, their hours of work are compatible with full-time schooling only in bidi (Tamil Nadu) where social welfare funds are applied. In all other sectors, the hours of work are close to what may be termed as a "danger zone" with regard to interfering with studies. In some sectors, all children – young and older – work hours that are totally incompatible with full-time

Table 4: Children Working in hbw Households: Average Hours Worked by Children Per Day by Age Group and Sex (Considering 6 days a week)

Sector	5 to 10			11 to 14			Total
	Female	Male	Total	Female	Male	Total	
Incense stick making	0.8	5.0	3.3	4.2	3.7	4.1	3.8
Bidi (MP)	3.7	2.3	2.8	2.6	2.5	2.6	2.7
Bidi (TN)	0.0	1.7	1.7	3.1	2.0	2.5	2.3
Zardosi	2.9	6.7	3.1	5.2	4.8	5.1	4.7
All	2.9	2.9	2.9	4.6	3.7	4.3	3.9

Source: UNICEF survey.

schooling. Based on the responses of the children, one can say that the work interfered with schoolwork for 40% of the children.

Health issues are on the agenda to combat the worst form of child labour. Toxic materials are frequently used in home-based activities and they affect the home environment. This can impact the health conditions (the capability to be healthy) of adults and children of the household even if they are not involved directly in the production activity.

5 Determinants of Children's Activity Status

The objective of this section is to provide some empirical evidence on the determinants of child labour in hw households. As we saw in Section 2, the status of the child as: only work, only study, work and study, or neither work nor study, depends upon various factors. When the data consist of such choice-specific attributes, a multinomial logic model (conditional) is the most appropriate to understand how a factor may influence the child activity status, since the conditional probability among the two statuses gives the direction and the magnitude of the effect of a factor.[15] The data utilised in the analysis are from the survey. As explained earlier (note 12), the results can be extended at the country level for hw in the three sectors on aggregate. A multinomial regression is used for estimation of the coefficients for each country separately (Table 5). The comparison category of child status is "only working". In our view "only working" is the worst possible status for the child since it reduces most of the capability dimensions of the child (Biggeri 2003). We would prefer the child to be either studying and working, or studying full-time – the latter being the best case scenario. The results regarding the neither category are not reported on account of the ambiguity of the data connected to reasons stated in Section 4.

in the table) has a significant impact on the status of the child. In particular, we find that among the Hindu households it is more likely that the children will be studying (and working/studying) rather than only working.

On the other hand, the human capital endowment of the household seems to have a positive inter-generational effect, i e, having an educated mother increases the probability of the child studying full time by 10.1%. Also, the ownership of a house by the hw household (i e, the economic endowment of the household) is also associated with an increase in the probability of the child studying full time; the marginal effect of ownership is 5.3%.

Gender does not seem to affect the probability of studying, as the coefficient is non-significant (even though the sign suggests that girls have less probability of studying full time). The age-dependency ratio within the household is non-significant too (but again the sign suggests that the number of dependants reduces the probability that the child is studying full time). Income per capita[16] and membership of a home-based work organisation, such as BWWF, although non-significant, show a positive sign.[17]

Comparing the Status of Working and Studying with Working Only: Age, education of parents, income per capita, organisational membership and being upper caste are significant determinants of the probability of "working and studying" instead of working full time. Consistent with the findings in the preceding paragraphs, as the age of the child increases, the child is more likely to only work, rather than work and study. Annual increases in age increase the probability of the child being in full time work by 3.3%. The consistency of this result suggests that there is a case for scholarships for children as they graduate from primary school into junior secondary, so that they do not drop out.

The remaining factors seem to favour the child studying and working, rather than only working. Thus, as we saw above, the education of the mother increases the probability (by 4.3%) of the child working and studying, rather than being in full-time work. An increase in income per capita also increases the probability of the child working and studying, rather than only working. The marginal effect is, however, low. It is plausible to argue that the reason for this low magnitude is that the income range of hw households is rather narrow, and the households are homogeneously

Table 5: Determinants of Child Status: Results of a Multinomial Logit Regression (Reference group: working only)

n° obs = 562; LR χ^2(27) = 223.68; Prob > χ^2 = 0.000; Pseudo R^2 = 0.164

Study only	Coef.	Std. err.	z	P>z	dy/dx
Age [of the child]	-0.577	0.070	-8.22	0.000***	-0.0752
Female [dummy for child's gender, female 1]	-0.326	0.268	-1.22	0.224	-0.0313
Edum d [dummy for the mother's education/literacy, yes 1]	0.660	0.305	2.16	0.030**	0.1008
Age dependency ratio [((0-14)+(61-_))/ (15-60)]	-0.050	0.172	-0.29	0.773	0.0132
Income per capita [of household]	0.000	0.000	0.81	0.419	0.0000
Organ [dummy, organisation membership, yes 1]	0.572	0.456	1.25	0.210	-0.0818
Upper cd [dummy for being upper caste, yes 1]	-0.340	0.342	-0.99	0.320	-0.1370
Home owned [dummy, yes 1]	0.696	0.291	2.39	0.017**	0.0526
Exogenous shock (without father) [dummy, yes 1]	-2.076	0.468	-4.44	0.000***	-0.3494
Constant	6.832	0.953	7.17	0.000	
Study and work					
Age [of the child]	-0.247	0.078	-3.18	0.001***	0.0326
Female [dummy for child's gender, female 1]	-0.072	0.310	-0.23	0.817	0.0326
Edum d [dummy for the mother's education/literacy, yes 1]	0.683	0.338	2.02	0.043**	0.0321
Age dependency ratio [((0-14)+(61-_))/ (15-60)]	0.050	0.188	0.26	0.792	0.0198
Income per capita [of household]	0.000	0.000	2.43	0.015**	0.0000
Organ [dummy, organisation membership, yes 1]	1.770	0.464	3.81	0.000***	0.2469
Upper cd [dummy for being upper caste, yes 1]	0.768	0.382	2.01	0.045**	0.1814
Home owned [dummy, yes 1]	0.555	0.339	1.64	0.101	0.0078
Exogenous shock (without father) [dummy, yes 1]	-0.771	0.473	-1.63	0.103	0.0872
Constant	0.951	1.084	0.88	0.380	

significant at 1% (***), significant at 5% (**) and significant at 10%(*); dy/dx is for discrete change of dummy variable from 0 to 1.

We first compare the *status of studying full time with working only*: increasing age of the child and exogenous shocks the family may have faced are likely to push the family into employing the child in full-time work. As the age of a child increases, the probability of studying full time decreases relative to full-time work. The marginal effect is 7.5%, i e, as age increases by one year, the probability of working increases (studying decreases) by 7.5%. Secondly, if the child is without a father, the probability of the child working full time is rather high, increasing by as much as 35 per cent. The religion of the household (not reported

poor. The implication clearly is that any collective or public action to increase the low piece-rates to hwers would help the children as well. In this context, the regression results suggest that collective action by hwers may be particularly important.

The membership of a hwer in a homeworkers' organisation, such as BWWF increases the probability of her child studying and working, rather than being in full-time work – which, by itself, is a remarkable finding. The marginal effect is high at 25%.[18] This result gains importance from the fact that elsewhere we have argued that in Pakistan too there was a similar finding (Mehrotra

and Biggeri 2007). The position of the household in the social hierarchy also seems to matter. Being upper caste decreases the probability of the child working full time – by 18%. On the other hand, being lower caste (i e, backward caste, scheduled caste, scheduled tribe and other) increases the probability of the child working full time to the same extent.

House ownership (a marker of wealth) and the child lacking a father (a marker of vulnerability) are very close to being significant, and have the predicted sign. Homeownership, i e, assets in the household, makes it conditionally probable that the child studies and works, rather than only works.[19]

6 Main Findings and Policy Implications

The analysis reveals several major findings. The first is that children from hw households have a higher probability of working than the children from CG households. The second is that there is evidence in our sample of the feminisation of hw from childhood, and female children have a double burden to carry. Third, the regression results show that, together with other determinants, as age increases children are more likely to work in hw. The majority of children were in school. However, the pull factor of work and the push factor of unaffordable (and possibly poor-quality) schooling combine to induce dropping out from school. We argued earlier that hw within the household reduces the fixed costs for children (and parents) of finding work outside the home, since it reduces the transportation costs, transaction costs, and allows for a higher divisibility of work "contracts" inside the household business. Policy measures could be directed to diminish the exclusion of children and their dropping out from school by reducing the fixed costs of attending school and by increasing the returns from schooling (by improving the quality of schools and making schooling more suitable for the local economic system).[20] Fourth, the mother's education level and per capita income/expenditure or assets in the household were important determinants of the child's activity status. Public or collective action that increases piece rates for workers holds out the prospect of improving the child's well-being. Fifth, collective action – (for example organised bidi workers and the creation of a Bidi Workers Welfare Fund) – plays a role in the reduction of children "only working", as underlined by the econometric results. Finally, the hours that children work both in India and Pakistan suggest that their ability to do school-related hw is likely to be impacted. The problem becomes more severe as the age of the child increases and if the child is a girl, who works longer hours.

The main findings of this study are that education, joint action and social protection are keys to the human development level of the hwer household. Furthermore, government at the subnational level will need to implement policies to support hw activities. There is also a strong case here for providing community-based childcare, so that the older girls can be freed from this care-giving responsibility (undertaken by the older girl to substitute for the hwer mother). Alternative childcare would enable the girls to go to school, and if necessary, work part-time.

For some households hw can be an opportunity for human development, but only if a set of interventions are included, as we discuss below. Before one turns to the policy implications of these findings, one thing is clear: legislation banning child labour in hw is clearly not the realistic (or a sufficient) way forward. The legislation in India banning child labour (Child Labour Prevention and Regulation Act, 1986) applies principally to children under 14 years working outside the home in particular activities or industries, and does not include work on the family farm or hw. In fact, no law covers the employment of children in the informal economy both in agricultural and in non-agricultural (which usually employs less than ten workers) sectors. The scope of legislation has been expanded since then.[21] Banning child labour or such enterprises, and trying to monitor the ban, is an infeasible strategy if not accompanied by other interventions. Furthermore, one of the most interesting findings that emerged from the fieldwork was the clear and stark difference in the levels of vulnerability of those households that were fully dependent on hbw and those that had other sources of income diversifying their risk and thus reducing vulnerability. This means that a fully home-based work household needs even more policies to reduce this risk and vulnerability.

Three other major policy implications emerge regarding adult home-based workers from the preceding analysis, given the importance of the human capital (e g, mother's education) and the economic endowments of the household (e g, per capita income as a determinant of child activity status), as well as the vulnerability of the households (e g, the significance of the father's absence in determining child status). These can be summarised in three words: registration, protection and promotion. The rationale for discussing these interventions is that the well-being of hwer families will favourably impact the current and future prospects of potential child workers.

First, one reason why hw is "invisible" to policymakers is that the workers are in the informal sector, and are literally not counted in most labour force surveys. In order to measure the magnitude of hw and the informal sector there is a need for surveys based on fully representative samples in each developing country.[22] This can be an important tool for policymaking, and for advocates to engage in policy-dialogue with government policymakers. What is equally, if not more important, is that gradually all home-based workers are *registered*. For the well-being of the worker and of her family, this is of more immediate and direct importance, as it will reduce their vulnerability. It is also consistent with the ILO Recommendation on Work. Naturally, only adult workers can be registered, not children. However registration will bring benefits to the whole family (including children, although the children will not be counted as workers on account of employer resistance to the idea). The registration will at least recognise them as workers, from which some limited rights could follow. The latter would involve the registration of the subcontractors as well. Once the workers have an identity they can at least claim some benefits – as we discuss below.

Second, there is need for some form of social protection for all those engaged in the informal sector manufacturing activities (Ginneken 2003). The Indian Parliament passed the Unorganised Workers Social Security Act on 17 December 2008. The Commission on Unorganised Sector had made a proposal in June 2006 to the government of India to finance social insurance for

informal sector workers. The commission proposes that the worker, the employer and the government each contribute one rupee per day (to cumulate to Rs 1,045 per annum per worker). Since only 17% of informal workers (in non-agricultural sectors) have identified employers, the employer contribution for the remaining 83% will need to be paid by the central government. The government contribution is to be shared between the central and state governments on a 75:25 ratio. Workers below the poverty level will not contribute, and their contribution will also be covered by the central government. All workers in the informal sector whose monthly income is less than Rs 6,500 will be eligible.[23]

In principle, this is a well-conceived scheme for social insurance for the informal sector. The difficulty is that it is much too ambitious since it is intended to be universal, covering the whole country in one go. It might be a fine proposal technically, but perhaps does not take into account the political economy of such a scheme – given that usually there is no political backing behind the fragmented, poor workers in the informal sector, who do not have a national level trade union (unlike the formal sector workers).

It might be more prudent to think of a social insurance scheme for the informal sector that is incremental in nature – that grows almost by stealth, in order to avoid arousing the employers and political elite in opposition to overtly distributive schemes from foundering even before they take off.[24] By contrast, sector and even product-group specific social insurance mechanisms, (e g, welfare funds), financed mainly from an earmarked tax on the product, could be a significant way forward for all informal sector-manufacturing activities. Kerala has 27 such welfare funds – all in the informal sector – as do many other states of India. A welfare fund of this kind could only become operational if the fund registers the workers, contractors and subcontractors.

We believe that such social insurance (or welfare) funds must, at a minimum, provide the following benefits: (1) Specific health benefits, related to the nature of work of home-based workers, including maternity benefits; (2) Scholarships for children to go to school; (3) Old-age pensions; (4) Life insurance; (5) Childcare facilities. Each of these welfare functions is a critical element in a system of support for informal sector workers. For poor households catastrophic out of pocket health expenditures make all the difference between living below or above the poverty line and bonded labour. We saw that the death of father is associated with a child being in "work only" status. Functional, affordable schools of reasonable quality offer an alternative to children who would otherwise work full time. While a functional school system is a state responsibility in a broader agenda of public action, welfare funds have been used to provide scholarships which could make all the difference between a child attending or not attending school as confirmed by econometric results.

Childcare facilities on a community basis that can be organised through a welfare fund would allow mothers to work. We saw that girls were more likely to be working in hw, and working longer hours than boys. Childcare would offer another advantage: girls who cannot go to school because they have to look after younger siblings while the mother works would be enabled to go to school. Indeed, girls too often bear a double burden since they are in charge of most household chores. The old-age pension

benefits would compensate, even if only partly, for the "children for old-age security" argument for high fertility – and thus would have a downward impact on fertility. Finally, the life insurance scheme would again cover the family in the case of the death or disability of a key breadwinner in the family.[25]

The political economy of financing of such a fund is critical to its creation in the first place, and its sustenance thereafter. Given the wide diversity of goods produced in the informal sector, and the consequent fragmentation and lack of organisation of the workers, as well as the large size of the informal sector workforce, it is unrealistic to expect that the government would be willing to finance, from general tax revenues, such a large number of sector-specific funds. Hence, the most important role of the government has to be to organise the creation, and the regulation, of such a fund, and ensure that a product-based tax is collected and reserved exclusively for the fund. The umbrella Act that has been passed by the Indian Parliament on 17 December 2008 could be the basis for taking forward such social insurance. However, leaving it to the state governments to take the initiative is again a relatively uncertain way to take social insurance forward, since so far it is mainly the three southern states of Kerala, Karnataka and Tamil Nadu that have the institutional mechanism of the welfare fund.

The level of organisation of the workers' community is a precondition for the creation of such funds. The regression results showed that membership of a hw organisation and participation in collective action by the home-based worker was a determinant of whether the child would be working full time, or studying and working. Such funds are unlikely to be created by voluntary

governmental action. Finally, local governments should intervene for hw activities by providing basic infrastructure services such as water, electricity and roads. Further promotional functions may involve certification of skills, training, assistance with marketing and the provision of credit. Help in the setting up of cooperatives among the hwers which would challenge the monopoly of contractors in supply of work to vulnerable women workers will also help raise piece rates offered by subcontractors.[26] Finally, we have to point out, according to the strategy we propose elsewhere (Mehrotra and Delamonica 2007), that social protection is likely to be more effective in the context of an employment-intensive growth strategy.

NOTES

1 Hw has been widely practised in industrialised countries going back to the industrial revolution and continues till date. See Boris and Prugl (1996) and Prugl (1999).

2 See for instance the ILO, UNICEF and World Bank web sites.

3 Children are, thus, often engaged in hw to respond to low price per piece and in order to generate additional income for the household.

4 The results indicate that about 16% of the younger children, and less than a tenth of older children, are in the "neither" category. However, this is misleading, since the India survey also provides information about the time allocation of children in the "neither" category i e, those who are not engaged in work, homework or otherwise. Their time allocation, outside of sleeping and eating hours, as follows: averaged across all sectors, roughly two hours are spent on assisting in "food preparation"; another hour or so goes towards "housekeeping" work; and another half hour each is spent on animal husbandry, fetching drinking water, shopping, and childcare. The rest of the time is spent between a series of miscellaneous activities: fuel collection, fodder collection, socialising, personal care or watching television (if available).

5 The same can be argued for women.

6 The qualitative methods, focus group discussions (FGDs, one with women workers, and the other with child workers) and case studies, were used for each sector/cluster, parallel to the quantitative survey.

7 In order to test statistically the homogeneity, we did an ex post t-test on the income of the home worker households for India and Pakistan by sector/cluster and by including all sectors/clusters together. We found that the mean is not statistically different (significant at 5%). This is true also among the control group or CG households. Then, between homeworker households and CG households we found that, by sector/cluster and by including all sectors/clusters together, the income mean is not statistically different.

8 By sampling homework households in stages, the costs are drastically reduced and a reliable sample frame is still obtained (McCormick and Schmitz 2002: 182).

9 Embroidery on garments, with gold thread, involving skills usually passed on from generation to generation.

10 In other words, although there are differences across clusters even within the same sector, because products are not completely homogeneous (e g, contracting systems differ, markets vary, the presence or not of other sources of income etc), at the same time, some broad features are likely to be similar. Therefore, with more caution, the sample obtained with the three stages sample can be considered representative for hwer households behaviour also at national level.

11 When in the text or in the tables we refer for each country to the aggregate "all" (given by the sum of the sectors) we imply that the value is an estimate for the above-mentioned levels. Furthermore, if certain information was not collected in the survey or the data were not comparable, it is so indicated with a dash.

12 The exception is agarbathi makers in rural areas, who happen to be located near the large industrial city of Bangalore, where wage employment is

better paid, so the men have been able to find better employment, thus increasing the total family income of the hwer household.

13 Data on national child labour incidence are based on the World Bank's WDI (2002) data for 2000.

14 Child Labour Abolition Support Scheme, registered under the Society Registration Act and functioning in Vellore district of Tamil Nadu since 1995.

15 Prob (Yi = j) = $e^{\beta}, z_{ij}/\Sigma_j e^{\beta}, z_{ij}$

Where, j=1, 2, ... , J for a total of J alternatives (in our case 4 alternatives).

16 We have inserted income directly in the function since the estimation of the real effect of income is not one of the purposes of the paper. However, for instance, simulating throughout a bivariate probit for India, an increment of income per capita of 40% increases the probability of the child's "working and studying" by 3.3% points and of "only studying" by 0.3% points. It reduces the probability of the child being in the activity status "working only" by 1.1% points and in the "neither working nor studying" category by 2.5% points.

17 The sign for upper caste is negative, which is counter-intuitive. However, the coefficient is non-significant.

18 In India, we had an additional regressor (which we do not have in other countries): non-wage benefits by employers. We found that if the employer offers non-wage benefits (e g, pension, health services) the probability of the child studying and working (rather than only working) increases by 10.6%.

19 The effect of the following variables was non-significant: gender of the child and age-dependency ratio.

20 A similar argument has been made by Panchamukhi (2005), and Mehrotra and Delamonica (1998)

21 Indian law prohibits the employment of children under age 14 in occupations deemed hazardous, a list that now (since October 2006) includes domestic, hotel and restaurant work.

22 The "Delhi Group on Informal Sector Statistics" has been formed to exchange experience in measuring the informal sector, documenting data collection practices, including definitions and survey methodologies followed by member countries and recommend measures for improving the quality and comparability of informal sector statistics. Among its notable achievements is the development of a harmonised definition of the informal sector for international comparability; inputs to the revision of the International System of Industrial Classifications; provision of technical feedback to countries for the development of informal sector statistics (see http://www.mospi.nic.in).

23 The proposed benefits will include: health benefits to cover hospitalisation, sickness allowance and maternity; life insurance to cover natural and accidental deaths; provident fund cum unemployment benefit for above poverty line workers, and old age pension of Rs 200 per month for persons above 60 for below poverty line workers. Social security boards at the central and state levels will be expected to enter into agreements with the Life Insurance Corporation of India. The planned implementation period is five years.

24 See Mehrotra (2008) for such a scheme focused on the below poverty line households

25 SEWA is already offering such insurance to many of its members. For a discussion, see Sinha (2001),

though premiums are paid only by the workers.

26 In the Draft Policy on Home Workers in India, the central government has proposed the setting up of precisely such cooperatives.

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