CHAPTER 2
Concepts, Methods and Measurements

2.1 Introduction

This chapter is devoted to (i) a critical examination of the concepts and definitions employed by the official data generating agencies to enumerate child labourers, (ii) suggesting modifications to the concepts and definitions employed, (iii) outlining the primary survey method adopted, and (iv) defining the measures of child labour, the index of contribution, the index of excess burden and the generalised index of deprivation that will be employed in the analyses presented in the subsequent chapters.

As a prelude, it is instructive to look at the estimates of child labour from different sources. The estimates of the number of child labourers vary across sources. These estimates vary from a low of 11.17 millions, as reported by the population Census 1981, to a high of 44 millions, as reported by the Baroda based Operations Research Group (ORG) in 198311. One also observes a considerable variation in the number of child workers estimated from a single source, say the Population Census, depending on the definition or the classification of workers considered by a researcher. For example, the Population Census classifies workers into ‘main’ and ‘marginal’ workers (the differences in the classification will be discussed in detail later). If one takes the count of workers to include only the ‘main’ workers, then there were ‘only’ 9.08 million child workers in India in 1991, but if the ‘marginal’ workers are also included then the count goes up to 11.29 millions. It may be pointed out here that even the lowest estimate placed at 9.08 millions in 1991 is cause for worry. What is even more worrying is the fact that recent estimates by some agencies are high enough to cause grave concern. For example, the South Asia Coalition against Child Slavery (SACCS) estimates the number of child labourers in India to be anywhere between 55 to 60 million in 1997. ILO cites figures for India ranging from 60 to 115 million (Human Rights Watch, 1996). This variation in the estimates observed both across sources, and within a source, indicates

11 The Operations Research Group defines child labour as “a child falling within the five to fifteen age bracket and who is at remunerative work, may be paid or unpaid, and busy in any hour of the day within or outside the family” (refer Sumi Krishna, 2001, p 70).
that a close scrutiny of the definitions and concepts employed by the various agencies is in order. However, for our purpose, attention will be confined to a discussion of the two principal official sources of data, namely the Population Census and the National Sample Survey (NSS). This is done for three reasons: (i) both the sources have a certain claim to relative authenticity; (ii) these are also the sources of data which will allow for studying temporal trends and (iii) they form sources for other variables on which subsequent analysis will depend. In the interest of consistent treatment, the needed database will be provided wherever it is possible.

2.2 Sources of Data

Only the two official sources of data, namely, the Population Census and the NSS provide data necessary to construct a picture of child labour in the country and its constituent states. For this reason, as indicated earlier, the two sources of data are relied on for a major part of the analyses in this thesis. The use of each of the sources of data has its own merits and limitations. For example, the NSS largely provides data disaggregated only to the level of states. On the other hand, the Population Census data on child labour are available at the level of districts and for individual cities. It may be mentioned here that while the Census furnishes information on the number of workers disaggregated to the level of villages (village is the smallest administrative unit in India), it does not provide this information classified by age at this finest level of spatial disaggregation. Therefore, while this study depends on both the Census and the NSS to construct a picture of child labour for the country as a whole and for the states, it depends only on the Census to estimate the extent of child labour at the level of districts for Tamil Nadu. Village level data, for the North Arcot district, where the study villages are located, are obtained from the ‘District Level Child Labour Survey’ of 1995-96, (unpublished) conducted by the Collector’s office with the help of ‘Arivoli Iyakkam’ volunteers (Arivoli Iyakkam is the regional name for the literacy movement of the Government). Given these data sources employed, one observes, as indicated earlier, a considerable variability in the estimate of child workers. The observed variability arises, as mentioned earlier, as a result of (i) variations in the reference period, (ii) definitions of a worker employed and (iii) the differences in the method of data collection. These issues are accordingly discussed in Section 2.2.
2.3 Reference Period

Before discussing the issues related to the data collection mentioned above, it would help to point out the study period. In this thesis an attempt is made to infer on the trend and variations in the magnitude of child labour across states for a period of 30 years. Accordingly, the Population Census data for the years 1961, 1971, 1981 and 1991 are employed. To verify the consistency of the observed trend and broad spatial pattern across states as inferred from the Census data, the NSS data for the years 1972-73 (27th round), 1983 (38th round) and 1993-94 (50th round) are utilised. It may be observed here that the data from the Population Census and the NSS do not correspond to the same years and hence are not strictly comparable. However, despite the fact that the method of data collection varies a great deal across these two sources, if data from these sources display a similar trend, then one could be guardedly optimistic that the trend is perhaps real and not the product of changes in either the definitions or the method of data collection employed by the data generating agencies over time. Apart from the Population Census and the NSS, data provided by the Centre for Monitoring Indian Economy on infrastructural facilities are employed to analyse the relationship between generalised deprivation and the incidence of child labour.

It may be noted that it is not possible to obtain a great deal of information from the secondary sources of data on the activities of 'invisible' child workers (children neither attending school nor listed as workers). For this reason, a primary survey was conducted in the months of January and February 2001. The discussion on the concepts, definitions and methods of data collection follows.

2.4 Concepts, Definitions and Methods of Data Collection

2.4.1 Concept of 'childhood'

The enumeration of child labourers is crucially dependent on the concepts/definitions of 'child' and 'labour' that are invoked for the purpose. De la Luz Silva (1981; cited in Rodgers and Standing, 1981, p 160) defines a 'child' as "someone who needs adult protection for physical, psychological and intellectual development until able to become independently integrated into the adult world." In the western tradition
childhood is defined in terms of chronological age. The difficulty of defining childhood in terms of age is clear from different age limits set by different agencies for classifying persons as children and adults. The ILO Minimum Age Convention of 1973 (No.138) prescribes that the minimum age (to enter into labour) shall not be less than 15 years. A UN convention on the Rights of the Child (1989) defines a child as "every human being below the age of eighteen." In India, the Factories Act puts the age limit at 14, but the Mines Act puts it at 15, the Plantation Labour Act at 12 and Article 24 of the Constitution of India at 14. The most recent Child Labour (Prohibition and Regulation) Act 1986 defines a child as a person who has not completed his/her fourteenth year of age.

This variation in the age limit seems to be dictated by the purpose for which such classifications are employed. However, objections have been raised to defining childhood on the basis of chronological age that is uniform across all societies and cultures. For example, Sahoo (1995, p 21) observes, "The rigid criterion of age is arbitrary and in the ultimate analysis demonstrates an imposition of a historically and culturally specific criterion as universal. Likewise is the case of childhood for it cannot but vary from one time and society to another, and again between classes, interest groups, social categories, gender and geographical environment". Somewhat similar views are expressed by Rodgers and Standing (1981) and Sumi Krishna (1996). To quote Sumi Krishna (1996, p1), " Their development and their experience of childhood is modulated by different interlocking identities, such as gender, class, caste, region, religion and even birth order in the family." Deriving from this, one may have to take account of the extent of poverty, illiteracy, malnutrition and the culture of dependency of children on their parents in a society in order to arrive at the acceptable society-specific definition of childhood. Little attempt has been made in this direction (i.e. to arrive at a suitable age limit taking into consideration the precise situation prevalent) in India. It may also be stated here that such an attempt is beyond the scope of an economist, since it is a multidisciplinary task—a task that needs to be undertaken by a group consisting of anthropologists, sociologists, medical practitioners and economists. Thus, while it is easy to advance general arguments supporting a plurality of cut-off ages, justifying a specific set of cut-off ages is a good deal more difficult from practical consideration, there may be no option but to fall back on a unique chronological age as the distinguishing criteria for separating children from adults.
It appears to be a common practice, for the purpose of identifying child labourers, to treat all persons in the age group 5-14 as children. However, it may be noted here that the ILO treats the age limit set at 14 as a concession given to developing countries, and the age limit should be raised progressively (Flexibility clause of ILO Convention, 138, 1973 concerning the Minimum age for Admission to Employment). In fact, the ILO convention 138 (1973, in Article 3) has fixed the minimum age as 18 for hazardous work. While this is noted, since a large part of the analyses in this thesis makes use of data made available by the Population Census and the NSS, the definition of childhood adopted by these agencies is employed throughout the thesis. Thus, in this thesis too all those who belong to the age group 5-14 are considered to be children.

2.4.2 Definition of Work

The Census defines work as “participation in any economically productive activity. Such participation may be physical or mental in nature. Work involves not only active work but also effective supervision and direction of work” (1991 Census). The understanding is that a person participates in economically productive activity if he or she does work on a regular basis for which he or she is remunerated or which results in output destined for the market. In the 1991 Census an attempt was made to include unpaid work on a farm or in family enterprise as a part of productive activity. To accommodate this the definition of work has been modified. However, the instruction to enumerators (1991 Census) reads, “A man or a woman may be producing or making something only for the domestic consumption of the household and not for sale. Such a person is not a worker, even though from his or her point of view the activity is productive”. This implies that all unpaid work has not been included in the definition of work—only such unpaid work on family farms/enterprises that resulted in production for the market has been included.

The NSS too has adopted, more or less, a similar definition of work. Accordingly, a person is considered ‘working or employed’ if the person was engaged for a relatively longer time during the past year in any one or more work-related activities (Sarvekshana, 1996). Thus, for a person to be considered as a worker s/he should be engaged in ‘economic activities’. Here ‘economic activity’ (or work) is defined as: “Economic activity is any activity that results in the production of goods and services that adds value
to the national product. Such activities include production of all goods and services for the market i.e. production for pay or profit and the production of primary commodities for own consumption and own account production of fixed assets, among the non-market activities" (Ibid. p 3). The previous NSS used the term ‘gainful activity’ in place of ‘economic activity’. The above definition is very close to the ‘gainful activity’ concept except for the inclusion of own-account production of fixed assets. However, execution of household chores or social commitments etc., are not considered ‘economic’ activities. Activities, such as prostitution, begging, etc., which may result in earning, are by convention not considered ‘economic’. This definition of ‘economic’ activity (or work) makes it clear that, while it is broader than the one adopted by the Census, it still leaves a considerable number of activities of women and children outside the realm of work. However, it may be noted here that enumeration based on the definition of work adopted by the NSS is likely to yield a better estimate of workers than the Census.

According to the UN system of National Accounts (an ILO manual on concepts and methods, ILO, Geneva, 1990 cited in Servexhana, 1996), ‘economic activity’ would mean any activity that results in the production of goods and services that adds value to the national product. Such activities include the production of all goods and services, whether for market, for barter or for own consumption. This definition of ‘economic activity’ is more inclusive and does not differentiate between works—whether the value added is by an activity that is paid or marketed or for own consumption. In this connection, it may be noted that the definition of work employed by the official data generating agencies leads to an underestimation of the economically active population. This also results in an underestimation of both the gross and net national product since most of women and children’s work, which results in production (or value added) for own consumption, is not taken into account. The official definition of work employed by the Census and the NSS, apart from being narrow, reflects the social attitudes dictated by cultural ‘norms’ towards the work of children and women. In a society in which the norms are based on a value system, which is compatible with patriarchy, adult males are seen as breadwinners. Women and children are seen as commodities at the command of adult males in society. Consequently, those activities, which are considered to be the normal duties of women and children, even if they contribute to the survival of a family, are not considered to be work. Asymmetrically, the activities of a male performed to fulfil his ‘normal’ responsibility are considered to be work. This value judgement
appears to be reflected in the definition of work employed by the data generating agencies. It is also expected that the perceptions, arising from a patriarchal value system, get reflected in the responses of a person to queries regarding work and employment of women and children. For these reasons, the estimates of the number of both child and women workers reported by the official data generating agencies are likely to be biased downwards.

2.4.3 Reference Period

There are also other problems with the identification of workers. The 1961 and 1971 Censuses did not categorise workers as ‘main’ and ‘marginal’ workers. However, the 1971 Census had made stringent the criteria for inclusion of a person into the workforce—particularly in the case of those employed in activities related to livestock, fishing, forestry and cultivation where the employment is seasonal. To be more precise, in the 1961 Census all those who were employed for more than one hour per day for a major part of the last working season (working season prior to the Census), were included in the category of workers. But in the 1971 Census, a person was qualified to be included as a worker only if she/he had worked for a major part of the previous year (the year that preceded the date of the Census). However, in the case of regular employment related to trade, profession, business or commerce and service, the 1961 Census had included any one who had worked for at least one day in the last 15 days prior to the date of the Census in the category of workers—which in 1971 was reduced to one day in the last one week prior to the date of the Census. These changes in the reference period of work had made the data obtained on workforce in 1961 and 1971 Censuses non-comparable.

To overcome the difficulty of non-comparability, the 1981 and the 1991 Censuses resorted to the classification of workers into two categories: the ‘main’ and the ‘marginal’. ‘Main’ workers are those who had worked for more than 183 (major part of the last year) days, irrespective of the nature (either seasonal or regular) of employment, in the previous year and those who had worked for less than 183 days were classified as ‘marginal’ workers. These changes in the reference period make the comparison of data over time, and hence the inference on the trend in work participation, difficult. However, it is often assumed that the count of workers – that include both ‘main’ and ‘marginal’

The NSS employs three reference periods. They are (i) one year, (ii) one week and (iii) each day of the week. Based on these three periods, four different measures of the status of workers are arrived at. They are the ‘usual’ status dichotomised into the ‘principal’ status and ‘subsidiary’ status, current weekly status, and current daily status. A person categorised as ‘worker’ or ‘employed’ on the basis of the principal status is called a ‘principal status worker’ or ‘principal status employed’. A person is considered to be a ‘usual’ status worker if s/he was engaged in any one of the economic activities for a relatively longer time during the past year. This classification corresponds to the ‘main’ workers category in the Census. A subsidiary status worker is a person who was engaged in some ‘gainful’ activities for a relatively short period in the past year. It may be observed that this category closely resembles the ‘marginal’ workers category in the Census. In the current weekly status approach a person is considered to be working if the person was engaged for at least one hour on any one day of the previous week on any work related (economic) activity. In the current daily status approach, a person was considered to be working for the entire day if he worked for 4 hours or more during the day. If he worked less than 4 hours and for more than 1 hour, the person was considered working for half a day (NSS 50th Round, Section 2, Conceptual Framework). These categorisations of workers do help one to analyse the extent of unemployment and under-employment. But it does not help to identify the exact magnitude of workers, particularly child workers.

2.5 Method of Data Collection

2.5.1 Secondary Data

The methods of data collection experience/qualification of investigators/enumerators employed by the two agencies differ a great deal. For example, the Population Census, as the name suggests, employs the Census method and all individuals are enumerated. On the other hand, the NSS employs the sample survey method. Consequently, the Census estimates suffer from only one type of error, namely non-sampling error, whereas the NSS suffers from both sampling and non-sampling errors.
The NSS estimates are likely to suffer much smaller non-sampling errors since (i) the NSS investigators are relatively better trained than the Census enumerators (who are often government employees, particularly teachers) and (ii) the survey is spread over a year, while the Census collects information pertaining to a year retrospectively at a particular point of time which might lead to greater recall error. It may also be noted that the NSS survey is a special survey on employment and unemployment, whereas the main objective of the Census is *not* oriented towards capturing the employment and unemployment situation in the country. For these reasons, the NSS estimates on labour market participation are likely to be more reliable. It may also be noted that the sampling error affects the estimates of aggregates more than the ratios—for instance Work Participation Rates and the Rate of literacy etc. are not affected much. To quote the NSS document, “The estimates of aggregates obtained from NSS surveys are in general simple unbiased estimates of totals without any sort of adjustment. Such estimates are usually subject to somewhat large sampling errors compared to estimates of rates, percentages etc., which are ratio type estimates” (NSS Report on Reliability of the Results 1983). This implies that the magnitude (as measured by the absolute headcount) of child labour and the trend in it (estimated employing the NSS data) is likely to pose a considerable problem. This issue, which is noted here, will be discussed in detail later.

To sum up the discussion so far in this chapter one observes considerable variability – in the method of data collection, the definition of a worker and the reference period employed to identify a worker – between the Census and the NSS. It is not possible to correct all of these differences to make the data comparable. However, the problem that arises due to changes in the reference period in the Census can be corrected to some extent. For this purpose, as indicated earlier, both the ‘main’ (principal status) and the ‘marginal’ (subsidiary status) workers are included in the count of ‘all workers’ in the thesis. While this classification makes it possible to compare the count of workers in the 1961, 1981 and 1991 Censuses, the 1971 Census count of workers is not comparable with that obtained from the other Censuses under consideration. There is also a substantive reason why the ‘main’ (principal status) and ‘marginal’ (subsidiary status) workers are included in the count of all workers. It appears that the norm fixed, based on the number of days employed in the previous year, as more than 183 days (or a major part of the last year in the NSS) for inclusion in the category of ‘main’ (principal status) workers appear to be too restrictive, particularly in the case of child workers.
Even if a child is employed for 182 days (for a long period, but not sufficiently long period to be considered as being employed for a major part of the last year in the case of NSS) s/he is classified as a “marginal” worker. In such cases (i) the contribution of such a child to family survival may not be marginal; and (ii) work is expected to definitely interfere with schooling (though the child may be enrolled in a school). So it appears reasonable to include both categories of workers in the group of all workers. The count of all workers, [which includes both the ‘main’ (principal status) and ‘marginal’ (subsidiary status) workers], is called the ‘restrictive’ count. This count is ‘restrictive’ since only those who work for a wage or whose produce is marketed are taken into consideration.

It is our firm belief that all activities that interfere with the development of a child need to be considered as work, irrespective of whether such activities are (i) carried out for pay, profit or only for family gains, and (ii) related to agriculture or non-agriculture. In other words, all activities of a child, which interfere with, it’s schooling, other than voluntary idleness, should be considered as work.

However, data on the activities of children are difficult to obtain from official sources, namely, the Census and the NSS to correct the above-mentioned defect. But the data on school attendance is provided by both the sources of data. Employing this information Jayaraj and Subramanian (1997) have arrived at the definition of a worker, which they call the ‘liberal’ definition of work. By this definition, all those who are not in school will be considered child labourers. To be precise, under the ‘liberal’ definition, the count of all child workers includes: ‘main’ (principal status), ‘marginal’ (subsidiary status) workers, and all children who are classified as non-workers not attending school. This may lead to an over-estimation of child labourers, since there exists the possibility that those who are voluntarily idle are also counted as workers. However, the authors say that it is better to err on the side of caution than of complaisance. To quote them, “We believe that this over-estimation does no serious damage to the substantive spirit in which the phenomenon of child labour is identified as a manifestation of social disadvantage or social deprivation. We shall take it to be a symptom of generalized ‘capability-failure’ if a child of school-going age is involuntarily restricted from being in the school system – either for reasons of ‘idleness’ (which is in all probability a euphemism for involuntary unproductiveness) or for reasons of being put to work
without remuneration” (Jayaraj and Subramanian, 2002, pp 943-944). In this thesis both the ‘liberal’ and the ‘restrictive’ definitions of a worker are employed and accordingly both the ‘restrictive’ and the ‘liberal’ counts of child labourers are furnished. It may also be noted that the ‘restrictive’ estimates generated for the Census years 1961, 1971, 1981 and 1991 are not comparable because in 1971 only the main workers were estimated whereas in all the other years both main and marginal workers were calculated. However, in the primary survey an attempt is made to get information on the activities of children neither perceived as workers by the respondents nor attending school. Such information will be useful to get an idea of the extent of over-estimation of child labourers under the ‘liberal’ definition of work.

2.5.2 Primary Data

The primary survey was aimed at getting information on the activities of children who are neither in school nor considered to be workers by the official data producing agencies. Such children will be called ‘invisible’ child workers because we assume that they engage in work and that their work is not seen or recognized as work. To conduct a micro study on invisible child workers, the identity of invisible child workers is needed. Neither the Population Census (1991) nor the district level (1995-96) survey data could be used for this purpose because they do not give enough information to identify the particular households in which invisible child labourers are present and, besides, the passing of five and more years after the survey makes the data irrelevant for our purpose. The school records regarding the number of children and their educational status could not be relied upon because of two reasons: (a) not all the children in the village are enumerated, even though it is imperative for the primary school teachers to take the census of children every year. For fear of being questioned by the authorities about those children who do not attend school, they leave them out in the Census itself; (b) there are cases of children reported as being enrolled in the school but attending only the noon-meal of the school. There is no other data available from any source (both governmental and non governmental). Therefore it was necessary to do a complete Census survey as the preliminary step for the micro study.
(i) Preliminary Survey

Given the problems with the methods of data collection, as a first step, in the primary survey, a Census schedule of all households in the selected villages was canvassed. The Census covered 1424 households (844 in Achamangalam and 580 in Kadirampatti). In that schedule, the respondent (often the head of the household) was asked to classify each person in the household into worker, non-worker and student. The reference period used was one year preceding the date of the survey. The classification obtained from this preliminary survey is expected to reflect the perceptions of the respondent, which is conditioned by the social attitude regarding work. For this reason, it is expected that the work participation rate, estimated from the schedule used for house listing, would be similar to the work participation rate estimated from the Census and the child labour survey conducted by the collector’s office. The period of survey was intended to be two months but due to the absence of some members of some of the households and the restricted time (only the evenings) in which they were available, the preliminary survey took three months to complete.

In the preliminary survey, the child workers were identified according to the perception of the respondents. Based on the information collected, the households with at least one child who is reported to be ‘non-worker not attending school’ were identified.

(ii) The Detailed Survey:

In order to have sufficient insight into the type of work that invisible children are engaged in, an effort was made to find out the activities of invisible children and the duration of time spent on such activities. The method adopted was diary writing. This would mean writing down everyday, the different activities of the ‘invisible’ children together with the amount of time spent in each activity. No pre-categorized schedule of activities was prepared for this purpose because every activity was to be enumerated. It was considered better to consolidate the data at a later stage. To get an idea of their daily activities, it was decided that the diary would be written continuously for a month. Since the activities of the ‘invisible’ children are related to the activities of other members of the households, it was decided that the activities of the other members of the family would also be recorded.
Everyday the researcher took note of the activities of all the members of the selected households using the observation cum interview method. Each individual was contacted every day for about 30 days in the months of February and March 2001. The diary writing was an interesting and a unique experience for the researcher because it involved designing a creative method of data collection.

In the process of diary writing, to find the exact amount of time spent on each activity was not easy because they did not have the habit of counting time by hours. Therefore to make it easy for remembrance, the day was divided into four segments on the basis of their meals time. Though people in the villages rise very early, the children wake up little late, therefore it was scheduled that the first segment would be from rising to breakfast time, that is from 6.00 a.m. to 9.00 a.m.; the second segment would be from breakfast time to lunchtime, that is from 9.00 a.m. to 12.00 noon; the third segment would be from noon to the time of closing the school (4.00 p.m.); the fourth segment would be from 4.00 p.m. to the time of sunset, which is around 6.00 p.m. Altogether about 12 hours per day were taken for study. This division made it possible to capture all their activities, otherwise they would have remembered only one are two activities for the whole day. Since the diary writing included activities of all the members of the households, it was easy to counter-check with other members and also with the other villagers who were willingly available during such interviews. Therefore, the data collected should be considered as very accurate. With 30 days of diary writing, it was possible to capture almost all the activities, which they would normally do.

2.6 Measurements

It is important to measure the extent and the intensity of child labour to ensure the effective implementation of a remedial programme of action. The more accurate the measurement of child labour in the country, the more effective will be its abolition. It is only with the help of appropriate statistical figures that certain development programmes can be made and implemented efficiently. Time use statistics may prove to be a powerful tool to measure the time spent on activities, which are not normally included under the head of economic activities (Bhatia, 2002).
2.6.1 Magnitude of Child Labour

In order to estimate the extent or magnitude of child labour, two measures are employed. Both of these are rudimentary ‘headcount’ measures. The first measure is the aggregate headcount, which is just the absolute number of child workers. The aggregate headcount is an important and essential pointer to the extent of effort that would be needed to deal with the phenomenon of child labour. An alternative headcount index, which takes a ‘relative’ view of the problem by normalizing for population size, is the headcount ratio or – given the context of discussion – what one may call the work participation rate (WPR).

Letting NCL stand for the number of child labourers (i.e. labourers in the age group of 5-14), and NCP for the total child population (i.e. population in the age group 5-14), the work participation rate can be obtained as

$$WPR = \frac{NCL}{NCP} \quad \text{...2.3.1}$$

This index is decomposable. Decomposability here implies that the WPR can be written as a population-weighted sum of group-specific WPRs so that

$$WPR = \sum_{i=1}^{m} s_i WPR_i \quad \text{...2.3.1(a)}$$

where $s_i$ is the share of the group $i$ in the total child population, $WPR_i$ is the work participation rate of the group $i$, and $m$ is the number of groups into which the population has been partitioned. In this study groups are defined along the lines of caste, gender and sector of residence.

2.6.2 Index of Excess Burden

In a society, such as India’s, where the population is divided along the lines of caste, gender and the sector of residence, it is anticipated that the burden of deprivation will fall disproportionately on different sections of the population. It is important that the excess burden experienced by different sections of the population be quantified. Such an

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12 This and the next subsection draw heavily on Jayaraj and Subramanian (1997).
attempt helps to rank the different groups. The measure of excess burden employed here is borrowed from Jayaraj and Subramanian (2002).

The decomposability property of WPR, though the index is rudimentary, allows us to identify the contribution of each group to the overall WPR. The contribution $c_i$ of the $i^{th}$ group to the work participation rate (WPR) is given by

$$c_i = s_i \frac{WPR_i}{WPR} \quad \ldots \quad 2.3.2$$

where $s_i$ as noted earlier, is the share of group $i$'s population in the total population of children. Grouping is done with respect to the place of residence, gender and caste.

Using the data on $s_i$ and $c_i$ Jayaraj and Subramanian (2002) have constructed an index of ‘relative disadvantage’. In a society where there is no inequality in the distribution of burden, the contribution of every group to the WPR will be exactly equal to its share in the total population. For this reason, a group is neither advantaged nor disadvantaged when $c_i = s_i$ that is, when its relative contribution to the overall WPR coincides with the group’s population share. A simple index of relative disadvantage (i.e., the mismatch between population share and share of child labour) is given by

$$D_i = (c_i - s_i)/s_i \quad \ldots \quad 2.3.3$$

Where $D_i$ is the index of relative disadvantage, which is re-christened as an ‘index of excess burden’ in this thesis.

2.6.3 Index of Generalized Deprivation

As mentioned earlier, one of the objectives of the study is to examine how, and to what extent, deprivation exerts an influence on the incidence of child labour. In examining such an association, one would need to have an index of deprivation. Such an
index – ‘the generalized headcount index of deprivation’ is available in the work of Jayaraj and Subramanian (2002)\textsuperscript{13}.

Employing the same methodology the ‘generalised aggregate headcount index of deprivation’ has been estimated for each one of the major states in the Indian union. ‘Capability failure’ was measured in the dimensions of literacy, health, education, mobility, power, communication and access to potable water.

This index, as Jayaraj and Subramanian (2002) have pointed out, is a crude and incomplete measure of ‘capability failure’. However, given the data constraints it is very difficult to refine this measure any further. Though crude and incomplete, this measure is expected to serve as a broad indicator of generalized deprivation experienced by different states in the country.

\textbf{2.7 Tools of Data Analysis}

In this thesis, no sophisticated statistical tools are employed—wherever necessary, very elementary techniques of data analysis such as the simple correlation, Spearman Rank correlation and cross tabulations are resorted to.

\textsuperscript{13} Jayaraj and Subramanian (2002) have used this index to study the relationship between generalized deprivation and work participation of children among the districts of rural Tamil Nadu.