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A NEW APPROACH TO THE DIRECT CONSENSUAL MEASUREMENT OF POVERTY

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Abstract

The direct consensual method of poverty measurement developed by Mack and Lansley (1985) in their study *Poor Britain* has been one of the most important contributions to modern poverty research. There are nevertheless several problems with Mack and Lansley's methodology, a number of which are discussed in this paper. An alternative method for measuring direct consensual poverty is proposed and it is argued that the method improves on the approach of Mack and Lansley in the following ways: it is less sensitive to the coverage of the initial list of consumption items on which the direct consensual measurement of poverty is based; it avoids some of the arbitrary decisions made by Mack and Lansley; it increases the sensitivity between the measurement of poverty and the preferences revealed by public opinion; and, at the same time, it decreases the sensitivity to particular individuals' preferences. An empirical comparison of Mack and Lansley's original approach and the proposed alternative method is conducted using a Swedish data set from 1992. This shows that both methods, apart from some minor differences, generate a high degree of consistency in the results. One important conclusion is therefore that Mack and Lansley's approach appears to produce robust and reliable results.

1   Introduction

The purpose of this paper is to present an elaboration of the poverty measure formulated and used by Mack and Lansley in their study entitled *Poor Britain* (Mack and Lansley, 1985). Their approach has had a major impact on poverty research and combines two important strands of work in this area: the direct approach to poverty measurement which focuses on actual living conditions rather than income, or some other measure of resources; and the consensual approach to poverty measurement which attempts to shift value judgements in poverty measurement away from the `expert' researcher. The key element of Mack and Lansley's approach was the method by which they incorporated in their measure public opinion on what constitutes necessary consumption. The motivation for this paper is a belief that it is possible to usefully extend this method and, thereby, to devise a measure which better reflects the diversity of public opinion regarding necessary consumption.

A description and critique of Mack and Lansley's approach is provided in Section 2, with the suggested elaboration of the method presented in Section 3. The two measures are then compared on the basis of 1992 Swedish survey data which is described in Section 4. The comparison is in three parts: a comparison of the pictures of deprivation produced by the two measures in Section 5, a comparison of the two measures with other indicators of material living standards in Section 6, and a comparison of the two measures with income in Section 7. Some concluding remarks are provided in Section 8.

2   A Critique of Mack and Lansley

Mack and Lansley's consensual definition of poverty, presented in the study *Poor Britain* (1985), has been one of the most important contributions to modern poverty research. The study, which was conducted during the first half of the 1980s and published in 1985,[1] was to a large extent a development and refinement of the theoretical and empirical work of Peter Townsend (1979). Thus, the work was conducted in the tradition of the direct measurement of poverty with Mack and Lansley defining poverty as `an

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[1]   The study was replicated in 1991 (Gosschalk and Frayman, 1991).

enforced lack of socially perceived necessities' (1985: 39). `Necessities' were identified from a set of consumption items, and people were then regarded as poor in terms of their ability to maintain a standard of consumption that was perceived as necessary by a majority of the population.

The empirical application of Mack and Lansley's approach to poverty measurement involved two steps: identifying the necessities and identifying those who could not afford them. The first step was conducted with reference to a list of 35 consumption items. Respondents were asked the following question:

> Please would you indicate... the living standards you feel all adults should have in Britain today. For each item indicate which you think is necessary, and which all adults should be able to afford and which they should not have to do without. (Mack and Lansley, 1985: 294)

Items that more than 50 per cent of the population classified as necessary were defined as `necessities'. In the next step, respondents were again confronted with the same list. This time they were asked which items they actually had. Through further questioning, items which they did not have were then classified into two groups. The first was `don't have and don't want' and the second was `don't have and can't afford'.[2] The aim of these response alternatives was to discriminate between people who had chosen not to have necessities and those who were forced to be without them.

People who said that they could not afford items that were classified as necessities received a score on a deprivation index, starting with a score of zero and cumulating by a value of one for each such item. The results showed that it was quite common for people, irrespective of income, to receive an index score of one or two. Mack and Lansley argued that the effect of a lack of one or two necessities was in the main marginal and should not be regarded as poverty `simply because people's lives are inevitably touched in at most one or two areas' (1985: 178). A poverty standard was then set so that anybody who lacked three or more necessities because they could not afford

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[2]   The items that people did have were also classified into two groups: a) 'have and couldn't do without', b) 'have but could do without'.

them was regarded as poor. The choice of this dividing line was motivated by the fact that people with low incomes were clearly over-represented in this group and that the lack of three or more necessities appeared to be connected with deprivation in other areas as well.

Mack and Lansley had gone further than any of their predecessors in the effort to relate the direct definition of poverty to public opinion and to reduce the role of `expert' decisions in the definition.

> ... we have aimed to exclude our own personal value judgements by taking the consensual judgement of society at large about people's needs. We hope to have moved towards what Sen describes as `an objective diagnosis of condition' based on `an objective understanding of "feelings"'. (Mack and Lansley, 1985: 46)

There remain, nevertheless, several arbitrary aspects to their approach: aspects related to the design of the survey and to the interpretation of survey results.

The first aspect of arbitrariness concerns the core of Mack and Lansley's study: the identification of necessities. This was accomplished from an initial list of 35 consumption items which had been selected by Mack and Lansley, arguing that the items `on the one hand distinguished between the poor and others and, on the other hand, to be of some significance to many people' (Mack and Lansley, 1985: 50). It is not argued here that this goal was not achieved; rather, that it might not have been achieved. The point is that it was Mack and Lansley who made the initial selection of those items which might be regarded as necessities. The respondents did decide which items from the list were necessary but they did not decide the range of items from which they could choose.

Interpretation of the term `consensus' is a second arbitrary aspect of Mack and Lansley's approach. The term strictly refers to the situation where everybody has the same opinion. A consensual definition of poverty should therefore refer to a definition that everybody accepts and that reflects `the views of society as a whole' (Mack and Lansley, 1895: 42). That is, however, not the case in Mack and Lansley's study. They decided that an item was a necessity if more than 50 per cent of the population perceived it as such. It can be seen as reasonable to let the majority decide what is necessary. But

majority is not the same as consensus and there are no theoretical reasons to put the level for defining `necessities' at 50 per cent rather than at 30 or 70 per cent or at any other level. The decision is ultimately arbitrary.

The classification of consumption into necessities and non-necessities emerges as even more problematic when the theoretical base for the direct consensual poverty definition is scrutinised. The definition is, in essence, an attempt to set up a grouped order of preferences among a set of consumption items, with the strength of the method seen to lie in the point that the order of preferences is based on public opinion. Difficulties arise, however, when an individual's preferences diverge from the aggregated preferences revealed by public opinion. The closer a person's order of preferences is to the aggregated preferences revealed by public opinion, the more likely it is that he or she will concentrate his or her efforts to consume in accordance with these aggregated preferences. The consequence is, leaving other things constant, that a person whose preferences are close to the average is less likely to be assessed as poor than a person whose preferences deviate from the average. This is an unresolved dilemma in Mack and Lansley's approach.

The next point concerns the capacity to consume in accordance with the order of aggregate preferences revealed by public opinion. This could of course be unambiguously interpreted as a capacity to avoid poverty if necessities were such in a subsistence sense, and if the inability to consume them meant a direct threat to what Rowntree called `physical efficiency' (Rowntree, 1902: 87). None of the consumption items used by Mack and Lansley are, however, necessary in an absolute sense. For example, people may suffer from some hardship if they cannot afford a leisure activity or a TV, but the lack of these things can hardly be seen as a threat to `physical efficiency'. The point is that different consumption items in Mack and Lansley's list are seen as more or less necessary, rather than as vital or not vital.

There is thus no good reason to assume that a person who lacks just a few of those items from Mack and Lansley's list which were regarded as necessary by more than 50 per cent of the population suffers from more hardship than a person who lacks several items not regarded as necessities by a majority or not included in the list in the first place. To divide consumption dichotomously into necessary and non-necessary items also means that a person who does not consume items that 51 per cent of the population regards as necessary is seen as being just as poor as a person who does not consume items that 95 per cent of the population regards as necessary.

A third problem in Mack and Lansley's consensual definition of poverty concerns their important conclusion that there was a high degree of homogeneity in people's opinions on what constituted necessary consumption. Necessities were accounted as such by a majority of the population independently of differences in demographic and social composition. This finding does not imply, however, that there are no differences in the extent that different parts of society consider specific consumption items to be necessary. It only means that it is unusual for these differences to change the majority conditions and important differences between population groups may still be concealed. This can be illustrated with the Swedish data used in this study which show, for example, that 23 per cent of the overall population regards stereo equipment as necessary. Stereo equipment would thus not be defined as a necessity under the Mack and Lansley approach. The data also show, however, that young people classify a stereo as necessary to a much higher degree than do old people. While 37 per cent of those under 30 years old believe that a stereo is necessary, the corresponding figure among those over 64 years old is just 9 per cent. These differences would be hidden if Mack and Lansley's approach was used. Indeed, the Swedish data show, for 24 of the 36 listed consumption items significant differences in the proportion of people nominating the item as a necessity between age groups, men and women, different types of household and geographical regions.

The fourth element in this critique of Mack and Lansley's approach concerns their decision that people who could not afford three or more necessities were poor. The question, of course, is why they fixed the poverty line at three necessities. It may seem a reasonable decision, though the fact remains that their poverty line was based on a combination of normative judgement and pragmatic consideration. Mack and Lansley did not present any theoretical reasons for their choice and it would seem that the dividing line could equally have been set at an index score of, say, two, four or five. It could also be argued that the poverty line should be set at a score of one if necessities really are considered to be necessary. These remarks raise the larger and more general question about the need for a poverty line at all. Without going into the arguments here, it is simply noted that a poverty line tends to imply a precision that indicators of poverty cannot justifiably claim, and also that, for both descriptive and analytical purposes, a continuous poverty measure has more value than a dichotomous measure.

3   The Proportional Deprivation Index

An elaboration of Mack and Lansley's approach to measuring poverty is introduced in this paper. It retains the same basic notions as those of Mack and Lansley, with poverty still seen as a `lack of socially perceived necessities', but is designed to overcome some of the shortcomings identified above in the deprivation index developed by Mack and Lansley. In particular, this is undertaken by strengthening the relationship between the consumption preferences revealed by public opinion and the direct definition of poverty.

Like Mack and Lansley, this new approach starts with the specification of a list of consumption items and then seeks people's responses regarding which items they consider to be necessities. It is at this point that the two approaches diverge. Mack and Lansley went on to measure poverty with reference to a reduced set of consumption items, defined as those from the original list which over 50 per cent of the population considered to be necessities. They thereby simply divided the original list of consumption items into two groups, discarded one group, and considered all items in the retained group to be of equal importance. In contrast, the elaboration advanced here retains all the original items in the poverty measure and gives each a weight based on the proportion of the population that regards it as a necessity.

With reference to the weighting procedure used, the new approach presented here is termed the `proportional deprivation index' (PDI). To improve the legibility of the subsequent discussion, Mack and Lansley's approach is assigned a corresponding label as the `majority necessity index' (MNI).

The basic difference between the PDI and MNI approaches is illustrated with some hypothetical examples which are set out in Table 1. For simplicity, consider the case where the initial list of consumption items includes only four items. The proportions of the population who consider each of these items to be a necessity are given in the first column of Table 1. The remaining columns in the table specify the consumption patterns of five hypothetical persons in terms of the consumption items that they do not have. The table then shows the deprivation index scores that would be calculated for each of the five persons under the MNI and PDI approaches.

Looking at the MNI scores for Persons 1, 2, 3 and 4 in Table 1, it can be seen how the MNI approach assigns a non-zero deprivation score only when a

person does not have a consumption item which is considered a necessity by more than 50 per cent of the population. Furthermore, comparison of Persons 3 and 4 shows how the MNI approach makes no distinction between deprivation attributable to lacking an item which all people think is a necessity and deprivation attributable to lacking an item which a slight majority of people think is a necessity. In contrast, the PDI approach assigns a non-zero deprivation score as long as the person lacks an item which at least someone thinks is a necessity, and the score is directly related to the proportion of people who think the item is a necessity. The PDI is a more sensitive measure allowing for gradations in the deprivation index where the MNI approach does not. The difference between the two approaches is, however, more than the difference between a continuous and a discrete measure. Person 5 has been included in Table 1 to illustrate how the measures can produce opposite deprivation rankings of individuals. The MNI measure shows Person 3 to be more deprived than Person 5, while the PDI measure shows the opposite. Despite their common framework, the PDI and MNI are obviously quite different measures.

Turning now to the shortcomings with the MNI approach identified in the previous section, an immediate advantage of the PDI over the MNI is that it does not require a somewhat arbitrary classification of which items are to be considered necessities and which are not. By retaining all consumption items and incorporating a continuous measure of the extent to which they are seen as necessities, the PDI is clearly founded on a pattern of consumption preferences that is a better representation of reality than is the dichotomy which forms the basis of the MNI.

Table 1: Comparison of the PDI and MNI Approaches: Some Hypothetical Examples

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Consumption items	Proportion of the population who consider the item to be a necessity (%)	Consumption patterns of hypothetical persons (x = does not have item)				
		Person 1	Person 2	Person 3	Person 4	Person 5
Item A	30	x				x
Item B	45		x			x
Item C	55			x		
Item D	100				x	
MNI index score	-	0	0	1	1	0
PDI index score	-	0.3	0.45	0.55	1.00	0.75

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It is true that the PDI shares with the MNI the arbitrary element in the initial selection of consumption items. However, the significance of this arbitrary element is less with the PDI than with the MNI. The MNI can be quite sensitive to the initial selection of consumption items. One list of consumption items could yield just a few items subsequently defined as necessities, while another list could yield several. The actual number of necessities included in the measure can have a potentially major impact on the revealed pattern of deprivation. The PDI is also dependent on the initial choice of consumption items, though the measure is less sensitive than the MNI to this choice because the choice will only affect each item's relative importance, not the number of items upon which the deprivation index is based.

The reflection of public opinion is further strengthened in the PDI due to the capacity to alter the weights for consumption items in line with any revealed significant differences in the consumption preferences of particular social and demographic groups. Mack and Lansley, for example, had found that people living in London were less deprived than people elsewhere in the country (1985: 190). It may be the case, however, that the total population is a poor reference group. Perhaps there are distinct differences between Londoners and others in their views regarding what constitutes necessary consumption.

The PDI approach can take any such differences into account by calculating the deprivation index score for a person according to the set of consumption item weights specific to that group of which the person is a member. Thus, deprivation for people living in London could be calculated with reference to a London-specific set of weights and, thereby, measuring deprivation in terms of what Londoners think is necessary rather than what the whole population thinks is necessary.

Another difficulty with the MNI measure, which was identified in the previous section, is the point that the closer an individual's preferences correspond to the aggregate pattern of preferences across the whole population, then the less likely it is that the person will appear to be poor. The same holds for the PDI measure though to a lesser extent, basically for the same reason: that the PDI measure is less sensitive than the MNI measure to the initial selection of consumption items. The essential difference between the two measures in this regard is that marginal variations in the circumstances of individuals will result in marginal variation in their deprivation index scores under the PDI, but may result in considerable variation in the deprivation index scores calculated using the MNI method.

In conclusion, it is argued that the PDI is a more appealing measure than the MNI because the PDI:

· 	is less sensitive to the coverage of the initial list of consumption items;

· 	does not make an arbitrary classification of `necessary' and `not necessary' consumption;

· 	decreases the sensitivity to an individual's preferences; and,

· 	takes account of significant differences between the preferences of subgroups in the population.

4   The Swedish Data

Having proposed the PDI measure as an elaboration of the MNI measure developed by Mack and Lansley (1985), and having argued the superiority of the PDI measure on conceptual and theoretical grounds, the paper now turns to examining the picture of deprivation which is obtained by using the PDI measure. This empirical examination will be conducted by comparing the

pattern and extent of deprivation revealed by use of the PDI with those revealed by the MNI, other direct indicators of deprivation, and income. Before presenting the results of the comparisons, the Swedish data which provide the basis for this part of the study are described with particular attention to the results concerning the perceived necessity of particular consumption items and the extent to which people are constrained to go without these items.

The data used here are from a 1992 representative sample survey of the Swedish population aged 20 to 75. The survey included a broad set of questions dealing with material standards and economic resources, attitudes towards redistribution and the welfare state, and people's views on their own circumstances. Also included was a set of questions about working conditions and attitudes towards work. The survey, *Svensk Levnadsstandard*, was developed at the Department of Sociology, University of Umeå, and the fieldwork was conducted by Statistics Sweden with data collected through face to face interviews during April and May 1992. Interviews were completed with 74 per cent of the initial sample of 1075 persons, yielding a final sample of 793 persons.

A comparison of the sample and the 1990 census shows that our data give a good representation of the population with regard to gender, age, household composition and occupational class. There is, however, an income bias with low income earners under-represented in the sample. It is difficult to say just what the effect of this bias will be as it will affect not only the proportion of low income earners in the sample, but also the definition of consensual poverty. A more detailed analysis of the representativeness of the sample is reported in Stattin (1993).

In the Swedish survey, questions about which consumption items people thought were necessary, whether they had them, and if not, whether this was because they could not afford them, were asked in identical forms to those used by Mack and Lansley. There were, however some differences in the list of items used.   The list of consumption items, the proportion of the population who regard them as necessary and the proportion of the population who cannot afford them are presented in Table 2.

Table 2: Proportion of the Population who Regard Consumption Item as Necessary and those who Cannot Afford the Item (n=793)

Consumption item	Necessary, should be able to afford	Would like to have but cannot afford
Medical treatment and medicine if necessary	99.2	0.5
Examination by dental surgeon once a year	96.5	1.6
Glasses, change of glasses if necessary	96.0	2.2
Vacuum cleaner	96.1	0.6
Telephone	95.6	0.3
Householders' comprehensive insurance	95.6	0.9
A hot meal each day	95.2	0.9
Washing machine	92.1	2.6
Freezer	90.2	2.0
Public transport for one's needs	87.9	3.7
Modern dwelling (bath/shower, WC, central heating, stove and refrigerator)	84.4	1.4
Self-contained accommodation	81.5	1.6
Not more than two persons in each bedroom	76.7	3.2
New, not second-hand clothes	73.5	6.5
A hobby or leisure activity	73.6	5.6
TV	70.2	0.8
Presents for friends and family at least once a year	69.5	1.3
Daily paper	65.2	5.7
A hair cut every third month	63.2	3.7
A holiday away from home for one week a year, not with relatives or friends	54.5	15.1
Car	47.3	5.9
Balcony or garden	47.3	4.3
Celebrations on special occasions	43.9	4.8
A `best outfit' for special occasions	43.5	3.7
Save at least 500 SEK each month	29.4	29.8
A special meal once a week	24.6	5.8
Friends/family for a meal once a month	23.1	12.1
Stereo equipment	23.1	4.0
Private pension insurance	22.2	28.1
A night out once a fortnight	17.9	14.6
Clothes that in some degree correspond with fashion	15.4	3.9
Go to a cinema, theatre or concert at least once every month	12.9	19.0
Dish washer	12.0	11.2
Access to summer cottage	10.8	15.0
Video	6.6	6.7
Microwave oven	6.2	10.1

Source: See text.

Among the 36 items shown in Table 2, there are nine items that at least 90 per cent of the Swedish population aged 20-75 years regard as necessities. The most basic items like `hot food' and `medical treatment' are included in this group. But items like vacuum cleaners, telephones, washing machines and freezers are also considered necessities by more than 90 per cent of the population. There are 20 items that more than 50 per cent of the population regard as necessities. These 20 items are consequently those on which the MNI would be based. One important conclusion from Table 2 is that people's views about what constitutes necessary consumption are clearly based on the life styles prevailing in a modern society, rather than being restricted to elements of a subsistence life style. People do not discriminate between items covering basic physical needs such as food and medical treatment and items relating to activities/consumption based on social conventions. The view of necessary consumption is clearly connected to the ordinary life style prevailing in the Swedish society of today.

The next question is whether the view of necessary consumption is homogeneous or whether different parts of the population have specific preferences. There are four demographic variables that are of particular interest here, and these are gender, household composition, age and geographic region. Gender differences could be important to the extent that men and women live different lives. Despite increasing labour force participation, women still have the primary responsibility for caring activities. On the basis of this difference alone, it is reasonable to expect some difference between men and women in their views about what constitutes necessitites. Household composition obviously has an impact on the nature of people's needs. In particular, households with children have different needs to those without children. Age is a potentially important characteristic not only because `objective' needs vary with age, but also because of any impact on aspirations. The configuration of preferences is based both on present conditions and also on life experiences which will differ with age. Finally, the area in which people live may also affect their needs and, thus, their preferences. Ways of life in Stockholm, for example, differ significantly from the conditions in non-urban areas with low population density.

There are, of course, other conditions that are likely to affect people's preferences. Mack and Lansley, for example, analysed differences due to income, class and political sympathies. It seems unreasonable, however, to adjust a deprivation index according to these differences since it implies, for

example, that we would accept one poverty standard for rich people and another for people with low levels of economic resources, one poverty standard for white collar workers and one for blue collar workers, and so on.

The analysis of the variation in preferences by the four demographic characteristics mentioned above has been undertaken in two steps. First, the preference pattern according to each of the four characteristics has been analysed using cross tabulation and Chi-square testing to reveal any significant differences. The analysis has then been extended to a multivariate cross tabulation where two or more of the demographic variables are found to significantly affect attitudes towards the same item. The purpose of this second step is to control for interactions among the four independent variables.[3] The analysis showed that all four variables had a significant impact on people's views of necessary consumption. Sex, age, household type and region all have some bearing on the pattern of people's preferences.

The incidence of significant differences between demographic groups in the proportion of people who consider each of the 36 consuumption items to be a necessity is shown in the table in Appendix One. The table shows significant differences between demographic groups for 24 of the 36 items on the list. There are, however, only four cases where these differences would change the selection of necessities for inclusion in the MNI; that is where the proportion of people who consider an item a necessity is over 50 per cent for one group and less than that for another. The four items are: having a car, having a balcony or garden, having celebrations on special occasions, and having a daily newspaper. While only 47 per cent of all people considered a car as necessary, it was seen as necessary by a majority of people in less densely populated areas. More than 50 per cent of women, but less than 50 per cent of men, regarded a balcony or garden as necessary. A majority of people living in Stockholm thought that celebrations on special occasions were necessary, though this was not the case in other parts of the country. Finally, a majority of people in the 20-30 year age group did not regard a daily paper as necessary, unlike the other age groups.

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3   ANOVA analysis is used to test significance levels when more than two variables are significant.

The differences for these four items are taken into account in the calculation of the MNI in the empirical analysis below. Having a car, for example, is included as a necessity for people in less densely populated areas, but not for people living in Stockholm. Thus, a person who wants to have a car but cannot afford one would get a score of one on the MNI if they lived in a rural area but no score if they lived in Stockholm. Similarly, lack of a balcony or garden will give a score on the MNI for women but not for men. The remaining 20 items that show significant differences across demographic groups do not effect the make-up of the MNI, but they do have an impact on the PDI.

The proportion of the population who said that they wanted an item but could not afford it is shown in the second column Table 2. In most cases it is just a small percentage of the population who fall into this group, especially for those items that a high proportion of the population regard as necessary. This correlation is to be expected from the anticipated close relationship between what people regard as necessary and what they actually consume. However, there are still people who say that they cannot afford `necessary' consumption items like `one hot meal each day', `medical treatment', `washing machine' etc. The central question now is whether the lack of consumption items is widely distributed across the population or whether it is concentrated in particular groups.

5   The MNI and PDI Results Compared

What pictures of the distribution of deprivation are revealed by the MNI and PDI measures? The distribution of deprivation according to the MNI is shown in Table 3. The MNI has been calculated following the approach of Mack and Lansley described in Section 2, though with an elaboration to take into account the differing views among demographic groups regarding four of the items, as described in the previous section. Two thirds of the population do not lack any item regarded as necessary by a majority of the population. About 17 per cent lack one of these necessities. The remaining 16 per cent lack two or more necessities and can be regarded as suffering

Table 3: The Population Aged 20-75, Distributed in Accordance with Value on MNI (n=793)

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MNI index score	0	1	2	3	4	5+
Share of population (per cent)	66.7	17.4	7.9	5.2	1.5	1.3

Source: See text.

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from accumulated deprivation. Eight per cent have an MNI score of three or more. The MNI clearly shows that the enforced lack of `socially perceived necessities' is concentrated in one part of the population.

While the MNI takes account of only those consumption items which a majority of the population deemed to be necessities, and with equal weights, the PDI incorporates all the consumption items, with weights according to the proportion of the population who consider each item necessary (the weights are displayed in Appendix 1). The PDI score is therefore the outcome of the number of items a person says they want to have but cannot afford and the specific weight assigned to each item. The distribution of deprivation according to the PDI is displayed in Table 4. The mean value on the PDI is 0.75, though the distribution of scores is considerably skewed with a median score of just 0.31. The skewed distribution indicates that deprivation measured by the PDI, as with the MNI, is concentrated in one part of the population, a concentration which is clearly evident from examination of the decile shares of measured deprivation shown in Table 4. Nearly 50 per cent of all deprivation is concentrated in the last decile, and just over 70 per cent of the deprivation is concentrated in 20 per cent of the population.

The main purpose here is to examine the extent to which definitions of poverty based on the MNI and PDI measures identify the same people as poor. Three poverty lines based on the MNI have been constructed for this purpose: one corresponding to the definition employed by Mack and Lansley (1985) and one either side of this in order to allow a comparion of the MNI and PDI measures across a range of possible poverty definitions.

Table 4: Distribution of PDI Scores in the Population Aged 20-75 Years: Mean PDI Score in PDI Score Deciles and Share of Total Deprivation in Each Decile

Decile	Mean value PDI	Per cent of deprivation
1	0	0
2	0	0
3	0	0
4	0.028	0.2
5	0.105	1.6
6	0.293	4.1
7	0.514	7.8
8	0.998	14.6
9	1.642	24.4
10	3.181	47.2

Source: See text.

The first line is set at a score of two on the MNI (labelled MNIa), the second at a score of three (MNIb), the definition used by Mack and Lansley (1985), and the third at a score of four (MNIc). According to these three poverty lines, 15.9 per cent, 8.0 per cent and finally 2.8 per cent of the population are respectively defined as poor (Table 3). Poverty lines based on the PDI are then set at levels that will create the same shares of people in poverty and are correspondingly labelled PDIa, PDIb and PDIc. Thus, the same number of people are classified as poor irrespective of whether the MNI or PDI member of any pair is used. The crucial question now is whether the two indices identify the same groups in the population as poor.

The overlap between poverty defined by the MNI and the PDI is shown in Table 5. With regard to the first pair of lines (PDIa and MNIa), nearly 18 per cent of the population falls under at least one of the poverty lines and 78 per cent of that group is poor according to both definitions. Ten per cent of the population are poor according to at least one of the second pair of poverty lines and 61 per cent of this group are classified as such by both poverty lines. The third pair of poverty lines define just 3.6 per cent of the population as poor with 57 per cent of this group being poor according to both measures. While the numbers associated with the third pair of poverty

Table 5: Overlap Between PDI and MNI: Percentage of Population and Percentage of the Poor (in brackets)

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N=793

</div>

	Poor according to at least one poverty line	Poor according to both MNI and PDI	Poor MNI only	Poor PDI only
PDIa and MNIa	17.9 (100.0)	13.9 (77.5)	2.0 (11.3)	2.0 (11.3)
PDIb and MNIb	9.8 (100.0)	6.1 (60.8)	1.9 (20.3)	1.9 (19.0)
PDIc and MNIc	3.6 (100.0)	2.0 (57.1)	0.8 (21.4)	0.8 (21.4)

Source: See text.

lines are small and should be interpreted with caution, the general pattern is for the majority of those identified as poor by either the MNI or PDI to be identified as such by both measures, though with this majority diminishing as the definition of poverty becomes more restrictive.

That the overlap between the results using the two measures constitutes a majority of those identified as poor is no real surprise given the close relationship between the underlying approaches for the two measures. Table 5, nevertheless, does show that there are differences in the ranking of deprivation according to the PDI and MNI for substantial minorities of the population defined as poor by one measure, but not by the other. The proportion of the poor who are regarded as such by only one of the two measures varies from 23 per cent, under the least restrictive definition of poverty used in Table 5, to over 40 per cent under the most restrictive definition.

6   Lack of Socially Perceived Necessities and Other Indicators of Poor Living Conditions

An important observation made by Mack and Lansley (1985) was that people with low material standards of living also tended to suffer from other problems. This finding corresponded with Townsend's results from the late 1960s and has also been supported by the work of Gosschalk and Frayman (1992).   Given the correspondence described above between poverty

identified using the PDI and MNI measures, we would also expect the PDI measure to tend to identify as poor those people who also suffer hardship measured in different terms. Is this in fact the case, and will Swedish data show the same extent of correspondence found using data for the United Kingdom? The correspondence between the PDI and MNI measures and other indicators of well-being is examined here with regard to five areas of potential hardship. Questions on these matters were included in the same survey which has provided the basis for calculation of the PDI and MNI measures in this paper, so a direct comparison of the various indicators is possible. The five areas of potential hardship are:

· self-evaluation of material standards;

· ability to make ends meet;

· dissatisfaction with housing conditions;

· health; and

· social contacts.

The form of the comparison can be illustrated with reference to the first panel of Table 6 which shows people's own evaluations of their material living standard for a number of groups in the population defined according to PDI and MNI poverty measures. The first four groups identified are each below one of the poverty lines defined in the previous section, namely: PDIa, PDIb, MNIa and MNIb. The more restrictive poverty lines, PDIc and MNIc, have been excluded from this analysis because of the small numbers in the population that they identify as poor and, hence, the difficulty of subjecting these groups to further disaggregation with any confidence. The remaining two population groups included in the table are the populations which are not defined as poor by the PDIa and MNIa measures.

Not unexpectedly, the first panel of Table 6 shows a markedly lower degree of satisfaction with material living standards among those below the poverty lines than among those above the lines. Between 23 and 36 per cent of those below the poverty lines are dissatisfied, with quite similar results for the PDI and MNI measures and the higher figures being for the more restrictive

Table 6: Correspondence Between PDI and MNI Measures and Self-Evaluation of Material Living Standard (Column Percentages)

	Poor according to				Not poor according to	
	PDIa	PDIb	MNIa	MNIb	PDIa	MNIa
Present material living standard[a]						
Very satisfied	9.5	6.3	11.1	7.9	36.3	36.0
Satisfied	43.7	34.9	45.2	39.7	52.8	52.5
Neither satisfied nor dissatisfied	23.8	22.2	19.0	20.6	8.4	9.3
Dissatisfied	16.7	28.6	18.3	22.2	2.1	1.8
Very dissatisfied	6.3	7.9	6.3	9.5	0.4	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Change in material living standard[b]						
Much higher	4.8	6.3	3.2	3.2	6.5	6.8
Higher	27.0	22.2	30.2	25.4	36.9	36.3
The same	38.1	34.9	36.5	33.3	45.9	46.2
Lower	24.6	30.2	23.8	30.2	9.5	9.6
Much lower	5.6	6.3	6.3	7.9	1.1	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: The Table includes responses to the following questions:

a)   `The things you can do or buy for money - for example housing, furniture, food, car, holiday, trips - are an essential part of our material living standard. If you think you of your standard today, do you consider yourself as:'

b)   `Do you think your standard is higher, lower or approximately the same as five years ago?'

Source: See text.

poverty definitions (PDIb and MNIb). In contrast, only around two per cent of those identified as not poor reported dissatisfaction with their material living standard. At the same time, it should be noted that there is not a direct correspondence between poverty defined according to either the PDI or MNI measures and people's own evaluations of their own material living standards. Around half the population defined as poor by the measures shown

in Table 6 were in fact satisfied or very satisfied with their present material living standards. The roles of aspirations and expectations are, of course, important considerations here, though the fact remains that there is a marked tendency for those defined as poor to suffer more than others in terms of their own evaluation of their material living standards.

A similar pattern of correspondence was found between the poverty measures and the other indicators of well-being considered here. The second panel of Table 6 reveals a markedly more negative picture of changes in material living standards among those defined as poor than among others. Between 30 and 38 per cent of those defined as poor thought their material living standard was lower at the time of the survey than it had been five years previously. The corresponding figure for the non-poor was only around 10 per cent.

Five indicators of difficulties making ends meet are compared with the poverty measures in Table 7. About 30 per cent of the non-poor reported some difficulty making ends meet, though this was the case for from 70 to 80 per cent of those defined as poor. Similarly, from 60 to 70 per cent of the poor reported difficulties paying household bills compared to a corresponding figure of just 14 per cent for the rest of the population. The table also shows that between 40 and 50 per cent of the poor are forced to borrow money from friends and relatives compared to very small proportions of the non-poor.

The last two indicators of well-being covered in Table 7 concern access to a cash margin or economic buffer: an important indicator of economic vulnerability. Around a third of the poor said that they could not raise SeK 10 000 (c. A$2000) in a week if needed, while over 90 per cent of the non-poor could raise that amount. Where such a cash margin was available, it was in the form of savings for most of the non-poor but in the form of access to borrowing for most of the poor. Whereas 70 per cent of the non-poor had at least SeK 10 000 in savings, only between 20 and 30 per cent of the poor had an economic buffer of this amount in the form of their own savings.

The picture is repeated when satisfaction with housing conditions is examined (Table 8). Around half those people defined as poor, but only around a quarter of those defined as non-poor, were dissatisfied with their

Table 7: Correspondence Between PDI and MNI Measures and Difficulties Making Ends Meet (Column Percentages)

	Poor according to				Not poor according to	
	PDIa	PDIb	MNIa	MNIb	PDIa	MNIa
Ability to make ends meet[a]						
With great difficulty	16.7	11.1	17.5	22.2	3.1	3.0
With some difficulty	29.4	41.3	31.0	31.7	10.0	9.7
With a little difficulty	23.0	20.6	23.8	25.4	15.3	15.1
Fairly easily	16.7	12.7	14.3	9.5	37.0	37.5
Easily	9.5	12.7	9.5	7.9	18.3	18.3
Very easily	4.8	1.6	4.0	3.1	16.2	16.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Difficulties in paying bills[b]						
Yes	59.5	69.8	61.9	68.3	14.3	13.8
Forced to borrow from friends or relatives[c]						
Yes	40.5	50.8	42.1	50.8	6.9	*
Lacking cash margin[d]						
Yes	30.2	34.9	28.6	39.7	8.0	6.6
Source of cash margin, where applicable[e]						
Own savings	38.4	32.5	43.2	32.4	75.2	74.6
Borrow from family	14.0	7.5	12.5	13.5	7.0	7.2
Borrow from friends/ relatives	25.6	35.0	25.0	29.7	6.8	6.8
Borrow from bank	18.6	22.5	17.0	24.3	8.3	8.5
Other	3.5	2.5	2.3	*	2.6	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: The Table includes responses to the following questions:

a)   `If you consider your current income, are you and your household able to make ends meet with: ...'

b)   `Have you had problems paying bills for rent, electricity, gas etc. during the last 12 months?'

c)   `Have you, during the last year, been forced to borrow money from friends or relatives to make ends meet?'

d)   `If you were in a situation where you had to get 10 000 crowns in one week, would you manage to that?'

e)   `If you can raise 10 000 crowns in one week, how will you do it?'

Source: See text.

Table 8: Correspondence Between PDI and MNI Measures and Satisfaction with Housing Conditions (Percentages)

	Poor according to				Not poor according to	
	PDIa	PDIb	MNIa	MNIb	PDIa	MNIa
Dissatisfied with housing conditions(a)						
Yes	46.0	49.2	44.4	52.4	27.7	28.0
Desire to move(b)						
Want to move	44.2	44.1	44.1	42.6	17.7	17.8
Want to move but can't afford to do so	26.4	26.9	26.9	34.6	13.3	13.2

Notes:
    a)   Dissatisfied with housing condition on at least one of the following points: size of dwelling, condition of dwelling, service (shops, post office, banks etc.), surroundings, public transport
    b)   Responses to the question: `Would you like to move to another dwelling in the near future?'

Source: See text.

housing in terms of either size, condition, access to services, the local environment or public transport provision. Just under half of those defined as poor said that they wanted to move in the near future, though most said that they could not afford to. In contrast, under 20 per cent of the non-poor reported that they wanted to move, though a still higher proportion of this group said that they could not afford to do so than was the case with the corresponding groups among the poor. This seemingly contradictory finding does, however, make sense if it is the case that those among the non-poor who want to and can afford to move, actually do so to a greater extent than do those among the poor.

Health is one of the most important aspects of people's lives and is crucial to standard of living. The survey respondents were asked if they considered their health to be better than, the same as, or worse than the health of others in their age group (Table 9). Only nine per cent of the non-poor thought that their health was worse than that of others their age, while around double the proportion of the poor saw this as the case. Respondents were also asked if

Table 9: Correspondence Between PDI and MNI Measures and Health (Percentages)

	Poor according to				Not poor according to	
	PDIa	PDIb	MNIa	MNIb	PDIa	MNIa
Perception of health compared to others[a]						
Better	11.9	9.5	12.7	9.5	21.2	21.0
Worse	15.1	23.8	15.9	20.6	8.9	8.7
The same	73.0	66.7	71.4	69.8	69.8	70.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Any long-standing illness or disability[b]						
Yes	24.0	27.1	24.4	26.2	27.1	27.0
If long-standing illness or disability, whether it has involved:						
Hospital treatment	31.0	37.5	31.0	31.3	22.5	22.5
Long-term medication	62.1	62.5	58.6	62.5	49.1	49.7
Reduced working capacity	65.5	75.0	65.5	75.0	48.9	48.9

Notes: Table includes responses to the following questions:

a)   `If you compare your health with others of your own age, do you think your health is ...?'
b)   `Do you have any long-standing illness or disability?'

Source: See text.

they had any long-standing illness or disability and Table 9 shows that similar proportions of the poor and non-poor, of around 25 per cent, reported that they had such health problems. However, where someone had a long-standing illness or disability, this involved hospital treatment, long-term medication or reduced working capacity markedly more often for those defined as poor than for those defined as non-poor.

The final area of potential hardship examined here is that of social contacts, and Table 10 summarises the responses to two questions in this area. The

Table 10: Correspondence Between PDI and MNI Measures and Satisfaction with Social Relations (Percentages)

	Poor according to				Not poor according to	
	PDIa	PDIb	MNIa	MNIb	PDIa	MNIa
Self-description of situation[a]						
Satisfied	85.7	84.1	87.3	84.1	94.3	94.0
Dissatisfied	14.3	15.9	12.7	15.9	5.7	6.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sense of discomfort in social contact[b]						
Yes	19.8	27.0	20.6	28.6	10.2	10.0

Notes: a)   Based on responses to the following question: `If you think about you relationship with other people (friends, relatives, people at your work), which of the following statements best reflects your situation?' Responses grouped here under the heading `satisfied' include the following: `I have contacts with other people as often as I want', and `I'm satisfied with my relationship with other people, I feel lonely sometimes but don't see it as a problem'. Those grouped under heading `dissatisfied' include: `I sometimes feel lonely and I would like to meet other people more than I do', `I rarely meet other people and I often feel lonely', and `I very rarely meet other people and I feel lonely most of the time'.

   b)   Those who agreed with at least one of the following statements:
   i.   I really like to be invited for dinner or receive gifts, but at the same time it is painful because I know that I can hardly ever give back as much as I receive.
   ii.   I do, to be honest, often feel embarrassed in front of other people. I think they can see from my clothes, my dwelling and other things that I'm poor.
   iii.   I often feel that it's uncomfortable to have visitors in my home. I'm worried that they will not respect me when they see how I live.

Source: See text.

first question dealt with the frequency of, and satisfaction, with contacts with other people, while the second question was concerned with people's feelings in certain situations. The specific aim of these questions was to test Sen's (1988) argument that poverty involves a feeling of shame among the poor because they cannot live up to the prevailing social norms regarding clothing,

housing and social conventions. While these questions proved to be difficult to ask, with many respondents feeling uncomfortable answering, the results are in line with those for the other areas of potential hardship described above. Around 15 per cent of people defined as poor were dissatisfied with their relationships with other people, and between 20 and 30 per cent felt uncomfortable in certain specified social situations. The corresponding proportions among the non-poor were less than half this size.

In summary, comparison of the incidence of poverty, defined according to the PDI and MNI measures, and the incidence of a number of aspects of hardship shows a clear and consistent picture. People below any of the four poverty lines considered here (PDIa, PDIb, MNIa and MNIb) consistently have a tendency to also be worse off according to the other indicators of hardship. Those below the more restrictive poverty lines (PDIb and MNIb) appear worse off according to the other indicators than do those under the higher poverty lines (PDIa and MNIa). Any differences between the PDI and MNI measures in terms of their relationship with other indicators are, however, negligible. The conclusion is that falling below a poverty line based on material standards is not a singular phenomenon, but can be seen as a core indicator of a set of problems which combine to make people's lives difficult.

7   Deprivation and Income

Having compared the PDI and MNI poverty measures with each other, and with other indicators of hardship, the two measures are now compared with income. Income does, of course, provide the basis for most indirect poverty measures, and in the debate about the relative merits of direct and indirect poverty measurement it is thus of considerable interest to compare the two types of measure. Such a comparison is undertaken below through examination of the correlation between income and scores on the PDI and MNI measures.

On the one hand, we can expect somewhat different pictures of hardship from using an income measure and from using the PDI or MNI measure. After all, one of the major motivations behind efforts to devise direct measures of poverty and deprivation is a belief that economic resources, particularly when measured by income alone, may not satisfactorily reflect standards of living. People have different constraints on their ability to transform income into living standards, and people live in different circumstances which can only

partly be taken into account using practical equivalence scales. On the other hand, we can expect some correlation between income and the PDI and MNI scores. Income is undoubtedly a particularly important determinant of material living standards and, furthermore, both the PDI and MNI measures are based on consumption items which are forgone because people cannot afford them. Being able to afford things will not correlate perfectly with income but, to the extent that they do, we can expect a correlation between income and deprivation measured according to the PDI and MNI measures.

Figure 1 shows the correspondence between household disposable income and deprivation according to the PDI and MNI measures. Before discussing the figure, some comments on its construction are warranted. The figure is based on data from the same Swedish sample survey referred to earlier. Survey respondents were asked about their and, where relevant, their partner's total pre-tax incomes. Household disposable incomes were then calculated by the imputation of income tax liabilities. The incomes have not been adjusted with an equivalence scale at this stage in the analysis. Figure 1 is not a simple plot of the PDI and MNI scores against disposable income for each case in the sample. If it were, it would be a scattergram with the MNI scores necessarily bunched at discrete intervals: an MNI score must be either zero or a positive integer. Rather, it summarises the correlation, and does this by plotting a moving average of the average PDI and MNI scores for people ranked by household disposable income.[4]

Figure 1 shows that deprivation according to both the MNI and PDI measures is correlated with disposable income. It is also apparent that the degree of deprivation accelerates in the lower part of the income distribution: there appears to be an income threshold below which decreasing income leads to an accelerated increase in deprivation. These results correspond with the earlier findings of Mack and Lansley (1985) and Townsend (1979) who both argued that deprivation accelerated at a certain income level and who both estimated that income level to be approximately 150 per cent of the level of the then supplementary benefit paid in the United Kingdom. Townsend went on to use the threshold to set an alternative indirect economic poverty line.

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[4]   The moving average is calculated over 51 people.

Figure 1: Correlation between Household Disposable Income and the PDI and MNI Indices
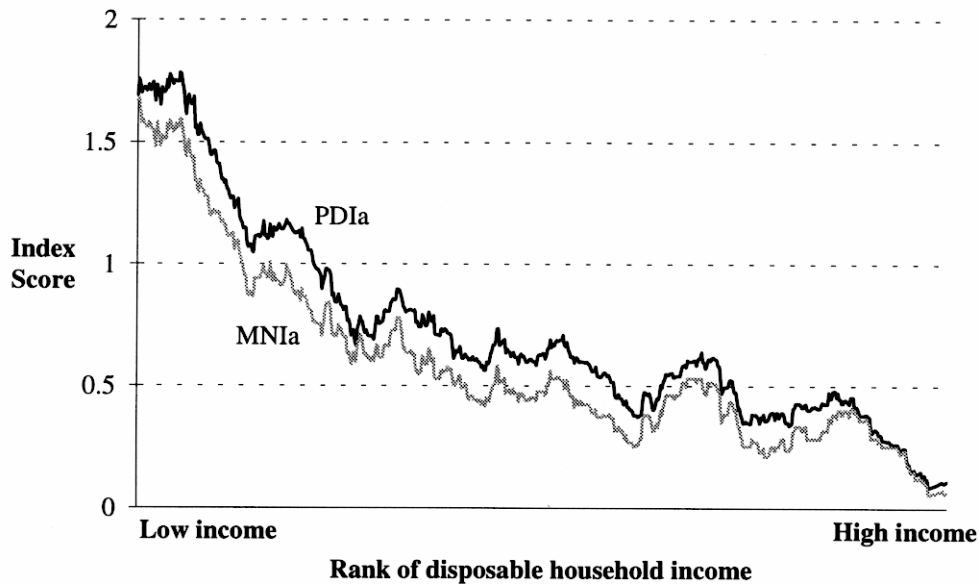
Source: See text

Taking such a step is beyond the scope of this paper, though the closer examination of the correlation between income and deprivation which would be required in order to do so, is a matter of interest here.

One necessary elaboration is to use an equivalence scale to adjust incomes in a way which allows an appropriate comparison of the incomes of people with different household sizes and compositions. There is no single correct equivalence scale to use and it is important to recognise that the choice of equivalence scale may have a direct bearing on the results. The equivalence scale used here is based on the Swedish Board of Social Affairs advice to local government concerning norms for social assistance, being one which has been constructed to reflect Swedish conditions.[5]

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5   Equivalence scale 1st adult   1   Child 0-3 year   0.48
                        2nd adult   0.65   Child 4-10 year   0.56
                                                Child 11-17 year   0.65

In Table 11 the population has been divided into deciles of equivalent household disposable income and the percentages in each decile which fall under the PDIa, MNIa, PDIb and MNIb poverty lines are given. For example, 40.3 per cent of people in the lowest income decile are below the PDIa poverty line. The table also shows the share of all people below the poverty line who were in each income decile. Thus, the lowest income decile accounted for 25.2 per cent of all people in PDIa poverty. The table suggests a strong relationship between income and these four measures of poverty. Almost half of the population in the lowest income decile, and about a fifth of those in the second decile, fall under the PDIa and MNIa poverty lines. Expressed another way, the two lowest income deciles account for about 40 per cent of all people in PDIa or MNIa poverty. The lower half of the income distribution includes about eighty per cent of all people in PDIa or MNIa poverty. The figures for the two more restrictive poverty lines, PDIb and MNIb, broadly replicate this picture. The risk of being in PDIb or MNIb poverty is greatest for those in the lowest decile and those under these two poverty lines are concentrated in the lower deciles. The PDI and MNI poverty measures appear to have a similarly strong relationship with income.

Despite the observed relationship between income and the four poverty measures included in Table 11, it remains a fact that a number people below the poverty lines do have high incomes. For example, around 20 per cent of those under each of the poverty lines are found in the upper half of the income distribution. Conversely, many of the people in the lower part of the income distribution are not poor according to the MNI and PDI measures. How can people with relatively high incomes still appear poor according to the PDI or MNI measures? While some general reasons why we might expect divergence between direct and indirect measures of poverty were mentioned above, there are two which are specific to this analysis. Firstly, both the PDI and MNI measures are sensitive to people's preferences. The priority that a person gives to particular consumption items will affect their PDI and MNI scores, and where these preferences differ markedly from those of the population at large seemingly perverse results may occur. Thus, high-income people may full under the PDI or MNI poverty lines simply because their preferences are unusual compared to the rest of the population. Secondly, household income is not necessarily shared equally among

Table 11: Percentage of Population Aged 21-75 Living in PDI and MNI Poverty by Deciles of Equivalent Household Disposable Income (percentage of the poor in each decile in brackets)

Decile	PDIa	MNIa	PDIb	MNIb
1st (lowest)	40.3 (25.2)	43.1 (26.7)	18.1 (23.2)	20.8 (26.3)
2nd	21.9 (13.9)	21.9 (13.8)	12.3 (16.1)	15.1 (19.3)
3rd	21.9 (13.9)	19.2 (12.1)	13.7 (17.9)	11.0 (14.0)
4th	18.1 (11.3)	18.1 (11.2)	11.1 (14.3)	9.7 (12.3)
5th	21.9 (13.9)	21.9 (13.8)	11.1 (14.3)	6.8 (8.8)
6th	4.1 (2.6)	6.8 (4.3)	1.4 (1.8)	1.4 (1.8)
7th	8.3 (5.2)	9.7 (6.0)	2.8 (3.6)	4.2 (5.3)
8th	12.3 (7.8)	11.0 (6.9)	1.4 (1.8)	5.5 (7.0)
9th	6.8 (4.3)	5.5 (3.4)	4.1 (5.4)	4.1 (5.3)
10th (highest)	2.8 (1.7)	2.8 (1.7)	1.4 (1.8)	0.0 (0.0)
Total	15.9 (100.0)	15.9 (100.0)	8.0 (100.0)	8.0 (100.0)

Source: See text.

household members. It is thus not inconsistent to find an individual to be poor on one of the direct poverty measures while living in a high-income household.

This type of pattern of non-correspondence between direct measures of poverty and income is typical of that found in other empirical research. People who are regarded as poor when an indirect definition is used are often found not to be poor when a direct definition is used and vice versa (Heikkilä, 1991; Halleröd, 1991, 1992; Deleeck and Van den Bosch, 1992; Muffels, Berghman and Dirven, 1992). There are two main conclusions for poverty measurement. The first is to highlight the importance of using both direct and indirect measures of poverty; each adds something to the picture. The second is to point to seeing a poverty line, whether direct or indirect, as an indicator of poverty rather than as an absolute dividing line between the poor and the non-poor. As such, the interpretation of Table 11 becomes clearer. People living in low-income households have a high risk of being in poverty, and the risk diminishes substantially as income increases. To a large extent, lack of socially perceived necessities appears to be an outcome of insufficient income.

8   Conclusions

Mack and Lansley's approach to the direct measurement of consensual poverty has had a major impact on poverty research, though their method does have a number of weaknesses. In response, an elaboration of the Mack and Lansley approach has been proposed in this paper. This new approach, termed the Proportional Deprivation Index (PDI), has then been compared with Mack and Lansley's approach (termed the Majority Needs Index or MNI) using data from a 1992 Swedish survey. The patterns of measured deprivation shown by the MNI and PDI measures have been compared, and they are also both compared with other indicators of material hardship and with income. There was a high degree of consistency in the results from using the PDI and MNI measures, and also in their correlations with other indicators of material hardship and with income. The main conclusion is therefore that, at least on the basis of 1992 Swedish data, Mack and Lansley's approach is robust and reliable. Elaboration of the method to reduce the weaknesses described above does not result in any marked difference in the picture of deprivation that is produced.

Which measure should then be used, the MNI or the PDI? Both of them have their strengths and their shortcomings. The PDI is more theoretically appealing. It is based on less arbitrary decisions and is more closely connected with public attitudes regarding what constitutes necessary consumption. The MNI, on the other hand, is simpler and can be more easily understood and interpreted by the public at large. This is a feature that should not be underestimated. Most people agree with Orshansky in saying that `There are no particular reasons to count the poor unless you are going to do something about them' (Orshansky, 1969: 37). It is definitely easier to use poverty research as an argument in public debate if definition and measurement are based on a method that most people find intuitive and which can be understood without difficulty. It is harder to reach this goal with the rather complex weighting system on which the PDI is based, compared with the simpler MNI method.

The choice between the MNI and PDI measures really comes down to the purpose of the exercise and the audience that one is trying to reach. At a broad level of analysis, such as that conducted in this paper, the MNI is probably the preferable measure. There is no marked difference between the MNI and PDI results, while use of the MNI makes the task of explaining the method far simpler. The PDI would, however, be the preferable measure with a more detailed analysis designed for a more specialised audience. One of the key differences between the PDI and MNI measures is the recognition by the former that the perception of what constitutes necessary consumption varies between groups in the population. Once we start disaggregating the population into variously defined subgroups in an examination of the incidence of poverty or deprivation, then use of the PDI measure has considerable advantages over use of the MNI. The PDI has accordingly been used by Halleröd (1994) in a detailed analysis of the incidence of poverty in Sweden.

Appendix One: Weighting Scheme for the PDI Index

The table should be read in the following way. The weight presented in the last column is valid for all groups that are marked with a cross in the preceding columns. The weight 0.095 for a dish washer is for example valid for men independently of household, age and region. The weight for women is on the other hand 0.144. Thus there are significant differences between men and women regarding the necessity of a dish washer but there are no differences between different households types, age groups or geographical regions.

	Man	Woman	H1*	H2*	H3*	H4*	Age 20-30	Age 31-40	Age 41-50	Age 51-64	Age 65-75	R1#	R2#	R3#	R4#	R5#	R6#	R7#	Weight
Dish washer	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.095
		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.144
Washing machine	x	x	x				x	x	x	x	x	x	x	x	x	x	x	x	0.869
	x	x		x			x	x	x	x	x	x	x	x	x	x	x	x	0.892
	x	x			x		x	x	x	x	x	x	x	x	x	x	x	x	0.924
	x	x				x	x	x	x	x	x	x	x	x	x	x	x	x	0.953
Freezer	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.902
Microwave oven	x	x	x				x	x	x	x	x	x	x	x	x	x	x	x	0.044
	x	x		x			x	x	x	x	x	x	x	x	x	x	x	x	0.081
	x	x			x		x	x	x	x	x	x	x	x	x	x	x	x	0.095
	x	x				x	x	x	x	x	x	x	x	x	x	x	x	x	0.041
Vacuum cleaner	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.960
Telephone	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.956

	Man	Woman	H1*	H2*	H3*	H4*	Age 20-30	Age 31-40	Age 41-50	Age 51-64	Age 65-75	R1#	R2#	R3#	R4#	R5#	R6#	R7#	Weight
TV	x	x	x	x	x	x	x					x	x	x	x	x	x	x	0.634
	x	x	x	x	x	x		x				x	x	x	x	x	x	x	0.669
	x	x	x	x	x	x			x			x	x	x	x	x	x	x	0.669
	x	x	x	x	x	x				x		x	x	x	x	x	x	x	0.768
	x	x	x	x	x	x					x	x	x	x	x	x	x	x	0.815
Video	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.096
		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.035
Stereo equipment	x	x	x	x	x	x	x					x	x	x	x	x	x	x	0.366
	x	x	x	x	x	x		x				x	x	x	x	x	x	x	0.250
	x	x	x	x	x	x			x			x	x	x	x	x	x	x	0.232
	x	x	x	x	x	x				x		x	x	x	x	x	x	x	0.161
	x	x	x	x	x	x					x	x	x	x	x	x	x	x	0.093
Car	x	x	x	x	x	x	x	x	x	x	x	x							0.269
	x	x	x	x	x	x	x	x	x	x	x		x						0.488
	x	x	x	x	x	x	x	x	x	x	x			x					0.549
	x	x	x	x	x	x	x	x	x	x	x				x				0.755
	x	x	x	x	x	x	x	x	x	x	x					x			0.660
	x	x	x	x	x	x	x	x	x	x	x						x		0.371
	x	x	x	x	x	x	x	x	x	x	x							x	0.308
Daily paper	x	x	x	x	x	x	x					x	x	x	x	x	x	x	0.423
	x	x	x	x	x	x		x				x	x	x	x	x	x	x	0.500
	x	x	x	x	x	x			x			x	x	x	x	x	x	x	0.779
	x	x	x	x	x	x				x		x	x	x	x	x	x	x	0.756
	x	x	x	x	x	x						x	x	x	x	x	x	x	0.870

	Man	Woman	H1*	H2*	H3*	H4*	Age 20-30	Age 31-40	Age 41-50	Age 51-64	Age 65-75	R1#	R2#	R3#	R4#	R5#	R6#	R7#	Weight
Balcony or garden	x		x				x	x	x	x	x	x	x	x	x	x	x	x	0.423
		x	x				x	x	x	x	x	x	x	x	x	x	x	x	0.570
	x			x			x	x	x	x	x	x	x	x	x	x	x	x	0.556
		x		x			x	x	x	x	x	x	x	x	x	x	x	x	0.607
	x				x		x	x	x	x	x	x	x	x	x	x	x	x	0.448
		x			x		x	x	x	x	x	x	x	x	x	x	x	x	0.508
	x					x	x	x	x	x	x	x	x	x	x	x	x	x	0.362
		x				x	x	x	x	x	x	x	x	x	x	x	x	x	0.614
Not more than two persons in each bedroom	x	x	x	x	x	x	x					x	x	x	x	x	x	x	0.749
	x	x	x	x	x	x		x				x	x	x	x	x	x	x	0.669
	x	x	x	x	x	x			x			x	x	x	x	x	x	x	0.807
	x	x	x	x	x	x				x		x	x	x	x	x	x	x	0.804
	x	x	x	x	x	x					x	x	x	x	x	x	x	x	0.815
A `best outfit' for special occasions	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.481
		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.389
Access to a summer cottage	x	x	x	x	x	x	x					x	x	x	x	x	x	x	0.069
	x	x	x	x	x	x		x				x	x	x	x	x	x	x	0.063
	x	x	x	x	x	x			x			x	x	x	x	x	x	x	0.110
	x	x	x	x	x	x				x		x	x	x	x	x	x	x	0.167
	x	x	x	x	x	x					x	x	x	x	x	x	x	x	0.148
Modern dwelling	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.818
		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.869
A special meal once a week	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.245

	Man	Woman	H1*	H2*	H3*	H4*	Age 20-30	Age 31-40	Age 41-50	Age 51-64	Age 65-75	R1#	R2#	R3#	R4#	R5#	R6#	R7#	Weight
Householders' comprehensive insurance	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.956
Private pension insurance	x		x	x	x	x	x					x	x	x	x	x	x	x	0.265
		x	x	x	x	x	x					x	x	x	x	x	x	x	0.365
	x		x	x	x	x		x				x	x	x	x	x	x	x	0.141
		x	x	x	x	x		x				x	x	x	x	x	x	x	0.200
	x		x	x	x	x			x			x	x	x	x	x	x	x	0.195
		x	x	x	x	x			x			x	x	x	x	x	x	x	0.149
	x		x	x	x	x				x		x	x	x	x	x	x	x	0.169
		x	x	x	x	x				x		x	x	x	x	x	x	x	0.319
	x		x	x	x	x						x	x	x	x	x	x	x	0.182
		x	x	x	x	x						x	x	x	x	x	x	x	0.226
Clothes that in some degree correspond with fashion	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.154
Glasses, change of glasses if necessary	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.960
Examination by dental surgeon once a year	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.965
Medical treatment and medicine if necessary	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.992
New, not second hand clothes	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.777
		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.693
Public transport for one's needs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.879

	Man	Woman	H1*	H2*	H3*	H4*	Age 20-30	Age 31-40	Age 41-50	Age 51-64	Age 65-75	R1#	R2#	R3#	R4#	R5#	R6#	R7#	Weight
A night out once a fortnight	x	x	x				x					x	x	x	x	x	x	x	0.357
	x	x		x			x					x	x	x	x	x	x	x	0.333
	x	x			x		x					x	x	x	x	x	x	x	0.111
	x	x	x					x				x	x	x	x	x	x	x	0.321
	x	x		x				x				x	x	x	x	x	x	x	0.273
	x	x			x			x				x	x	x	x	x	x	x	0.294
	x	x				x		x				x	x	x	x	x	x	x	0.115
	x	x	x						x			x	x	x	x	x	x	x	0.375
	x	x		x					x			x	x	x	x	x	x	x	0.267
	x	x			x				x			x	x	x	x	x	x	x	0.208
	x	x				x			x			x	x	x	x	x	x	x	0.120
	x	x	x							x		x	x	x	x	x	x	x	0.321
	x	x		x						x		x	x	x	x	x	x	x	0.095
	x	x			x					x		x	x	x	x	x	x	x	0.037
	x	x	x								x	x	x	x	x	x	x	x	0.133
	x	x			x						x	x	x	x	x	x	x	x	0.108
A hobby or leisure activity	x	x	x	x	x	x	x					x	x	x	x	x	x	x	0.806
	x	x	x	x	x	x		x				x	x	x	x	x	x	x	0.739
	x	x	x	x	x	x			x			x	x	x	x	x	x	x	0.762
	x	x	x	x	x	x				x		x	x	x	x	x	x	x	0.732
	x	x	x	x	x	x					x	x	x	x	x	x	x	x	0.583
A holiday away from home for one week a year	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.545
Celebration on special occasions	x	x	x	x	x	x	x	x	x	x	x	x							0.585
	x	x	x	x	x	x	x	x	x	x	x		x						0.392
	x	x	x	x	x	x	x	x	x	x	x			x					0.415
	x	x	x	x	x	x	x	x	x	x	x				x				0.469
	x	x	x	x	x	x	x	x	x	x	x					x			0.320
	x	x	x	x	x	x	x	x	x	x	x						x		0.471
	x	x	x	x	x	x	x	x	x	x	x							x	0.462

	Man	Woman	H1*	H2*	H3*	H4*	Age 20-30	Age 31-40	Age 41-50	Age 51-64	Age 65-75	R1#	R2#	R3#	R4#	R5#	R6#	R7#	Weight
Present for friends and family at least once a year	x	x	x	x	x	x	x					x	x	x	x	x	x	x	0.669
	x	x	x	x	x	x		x				x	x	x	x	x	x	x	0.600
	x	x	x	x	x	x			x			x	x	x	x	x	x	x	0.757
	x	x	x	x	x	x				x		x	x	x	x	x	x	x	0.738
	x	x	x	x	x	x					x	x	x	x	x	x	x	x	0.704
Friends/family for a meal once a month	x	x	x	x	x	x	x	x	x	x	x	x							0.331
	x	x	x	x	x	x	x	x	x	x	x		x						0.175
	x	x	x	x	x	x	x	x	x	x	x			x					0.226
	x	x	x	x	x	x	x	x	x	x	x				x				0.184
	x	x	x	x	x	x	x	x	x	x	x					x			0.240
	x	x	x	x	x	x	x	x	x	x	x						x		0.300
	x	x	x	x	x	x	x	x	x	x	x							x	0.256
A hot meal each day	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.952
Self-contained accommodation	x	x	x				x	x	x	x	x	x	x	x	x	x	x	x	0.754
	x	x		x			x	x	x	x	x	x	x	x	x	x	x	x	0.838
	x	x			x		x	x	x	x	x	x	x	x	x	x	x	x	0.869
	x	x				x	x	x	x	x	x	x	x	x	x	x	x	x	0.797
A hair cut every third month	x		x	x	x	x	x					x	x	x	x	x	x	x	0.644
	x		x	x	x	x		x				x	x	x	x	x	x	x	0.612
	x		x	x	x	x			x			x	x	x	x	x	x	x	0.724
	x		x	x	x	x				x		x	x	x	x	x	x	x	0.701
	x		x	x	x	x					x	x	x	x	x	x	x	x	0.782
		x	x	x	x	x	x					x	x	x	x	x	x	x	0.506
		x	x	x	x	x		x				x	x	x	x	x	x	x	0.467
		x	x	x	x	x			x			x	x	x	x	x	x	x	0.617
		x	x	x	x	x				x		x	x	x	x	x	x	x	0.615
		x	x	x	x	x					x	x	x	x	x	x	x	x	0.717

	Man	Woman	H1*	H2*	H3*	H4*	Age 20-30	Age 31-40	Age 41-50	Age 51-64	Age 65-75	R1#	R2#	R3#	R4#	R5#	R6#	R7#	Weight
Cinema, theatre or concert																			
at least once a month	x	x	x	x	x	x	x	x	x	x	x	x							0.269
	x	x	x	x	x	x	x	x	x	x	x		x						0.124
	x	x	x	x	x	x	x	x	x	x	x			x					0.073
	x	x	x	x	x	x	x	x	x	x	x				x				0.041
	x	x	x	x	x	x	x	x	x	x	x					x			0.080
	x	x	x	x	x	x	x	x	x	x	x						x		0.157
	x	x	x	x	x	x	x	x	x	x	x							x	0.051
Save at least 500 SEK																			
each month	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.332
		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0.256

Note: * The symbols should be read as follows: H1 - single without children, H2 - single with children, H3 - couple without children, H4 - couple with children

\# Regions:
R1 = Stockholm/Södertälje
R2 = Göteborg
R3 = Malmö/Lund/Trelleborg
R4 = Areas with a population greater than 90 000 within 30 kilometres
R5 = Areas with a population between 27 000 and 90 000 within 30 kilometres and a population greater than 300 000 within 100 kilometres
R6 = Areas with a population between 27 000 and 90 000 within 30 kilometres and a population less than 300 000 within 100 kilometres
R7 = Areas with a population less than 27 000 within 30 kilometres.

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