

SECOND CARNEGIE INQUIRY INTO POVERTY  
AND DEVELOPMENT IN SOUTHERN AFRICA

Modelling poverty on household  
dynamics: A data approach through  
percapita income

by

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MODELLING POVERTY ON HOUSEHOLD DYNAMICS :  
A DATA APPROACH THROUGH PERCAPITA INCOME

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This paper was put together as an exploration of what poverty means in relation to the household, of how people become poor, and of how the dynamics of impoverishment at the household level may be assessed and measured. One of the objectives of this conference is to identify vulnerable groups in relation to poverty; we want to suggest that one of the most significant groups in this connection is that of *Weak Households*. Some relation between poverty and weak households, such as those with female heads, is often accepted,<sup>1</sup> but has not previously been fully explored in operational terms. To pin down what we mean here by weak households, we will present three indices designed to measure household weakness, and we will relate them to income data and to indications of perceptible poverty.

A heavy reliance on informal economic activity is characteristic of many poor households and, possibly because of this, there is an implied assumption in much of the literature that the poor are poor because they cannot get workers into the formal labour market. If this is true, then the structure and composition of the household are important only if they affect the household's chances of getting people into formal employment.

Our previous work in the field suggests that the balance of formal and informal activity and of male and female income contributions within the household are significant diagnostic factors, but we do not think that poverty is entirely a product of the household's capacity to penetrate the developed economy. People who are in a position to work in the formal labour market do not always do so. Other factors must be involved. Households can be weak in terms of authority structure, or of social cohesion and we think that it is this kind of weakness, as distinct from economic weakness, which may be critical in affecting a household's chances of poverty. In testing this idea we devised two hypotheses which separated economic weakness in the household's organizational structure from weakness in its role structure. We state the hypotheses as follows :

1. *Household weakness in the form we are measuring it, is significantly related to poverty.*
2. *Household weakness does not only mean economic weakness: social weakness is also a determinant of poverty.*

To test the hypotheses, we used data drawn from 103 households in a peri-urban area of KwaZulu 20k from Durban. In assessing household weakness, we used three operational indicators. These, employing a type of phenomenological approach, took the expected, socially sanctioned type of household structure as the anchor category, "normative". Weakness of household structure was then measured in terms of relative degrees of disturbance departing from this normative standard. Our assumption was that the more distorted the actual household structure was, the more likely it would be to be economically unbalanced<sup>2</sup>, and at the same time, the weaker its authority and cohesion. The latter can in itself be an important factor in economic behaviour for with well-defined relationships in a family, the economic obligations are also well-defined and clearly understood, and therefore comparatively reliable. In households with anomalous structure, economic obligations become unclear and ambiguous. They are not accepted unquestioningly and household support may be unreliable and weak. Therefore, even if the household has enough functioning adults and not too many dependants, its economic functioning is less likely to be effective compared to a normative household.

Two of the indices we used, the economic dislocation index and the social dislocation index, were additive point scores that awarded the household dislocation points for each scorable structural deviation. They score 0-10 and 0-15. To use these indices, you need a household structure diagram or ideograph, and a check-sheet scoring list.

1. The economic dislocation index scores according to whether or not the household has the personnel to fill its vital economic roles regardless of how the members were related to each other. This meant at least one man and one woman; also at least one person able to move around and work, and at least one capable of staying home and managing the household.
2. The social dislocation index scores according to whether or not the relationship between household members are the expected ones in terms of social norms.
3. The third index, household distortion type, is typological rather than cumulative. To score it you need to compare the household structure diagram against a list of types to get the closest fit. It separates four different ideal types of household structure:

1. *NORMATIVE*. Households with at least one nuclear unit and with the household conforming closely to social expectations;
2. *SEMI-NORMATIVE*, with at least one nuclear unit and generally as expected, but with some substitutions or deviations between the generations;
3. *FEMALE-CORE*, usually structured around an organizational core of women, rather than an existing marriage relationship. The nuclear unit is present but incomplete, missing one parent or the other. It need not be either matrifocal or female-headed, but often is.
4. *SINGLE-GENERATION*, usually structured around a male organizational core and not around a married couple with children - this can be either a childless couple, or two unmarried brothers, or an old couple with unmarried sons, who show no sign of reproducing themselves; it is always without a functioning nuclear unit as a core.

In terms of social disturbance as the community sees it, the categories run roughly in the order we have listed them. Normative and semi-normative households are both strong types, but the other two are characteristically weak. The female core households contain children, and also likely to have all the usual types of weakness associated with poverty; the single generation household have low dependency, and high masculinity ratios, but without children they have no clear line into their future. (Fig. 1) The frequency distributions for the three indicators appear in Fig. 2.

Using these measures to consider our hypotheses, we looked first at the relation between the income components - formal and informal inputs from men and from women - in weak and in strong households. The results here are complicated, so we summarized them into the form of a visual model by averaging the results for all three indicators together. (Fig. 3). Here we found what we expected: the trendline for poverty slants up for weak households. The risk of poverty for the weak households was just about four times what it was for strong ones.

In strong households, men tend to work at formal jobs, and women usually remain at home tending not to work at all. In weak households, formal employment drops off sharply for men, but all the alternate options - women's informal work, men's informal work and women's wage work - rise to compensate.

FIGURE 1: MASCULINITY AND DEPENDENCY RATIOS FOR HOUSEHOLD TYPES

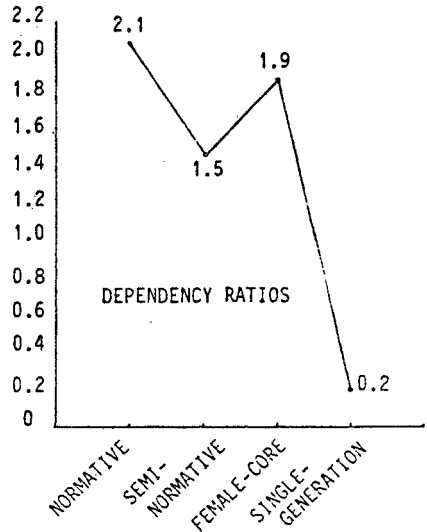
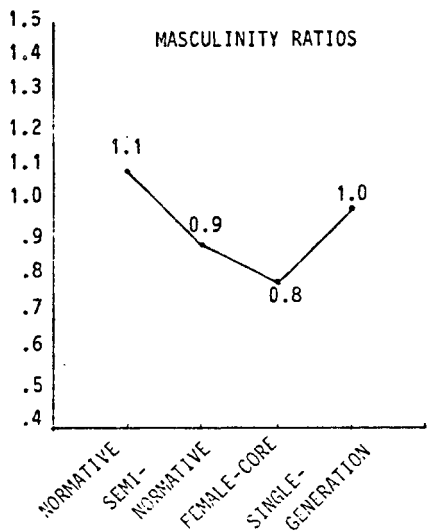
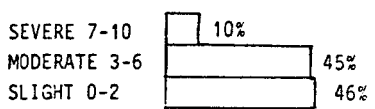
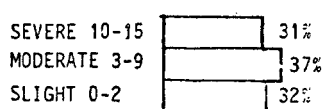


FIGURE 2: FREQUENCY DISTRIBUTION FOR ALL INDICES

ECONOMIC DISLOCATION INDEX:



SOCIAL DISLOCATION INDEX:



DISTORTION TYPE:

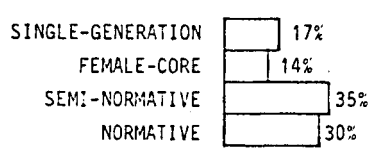
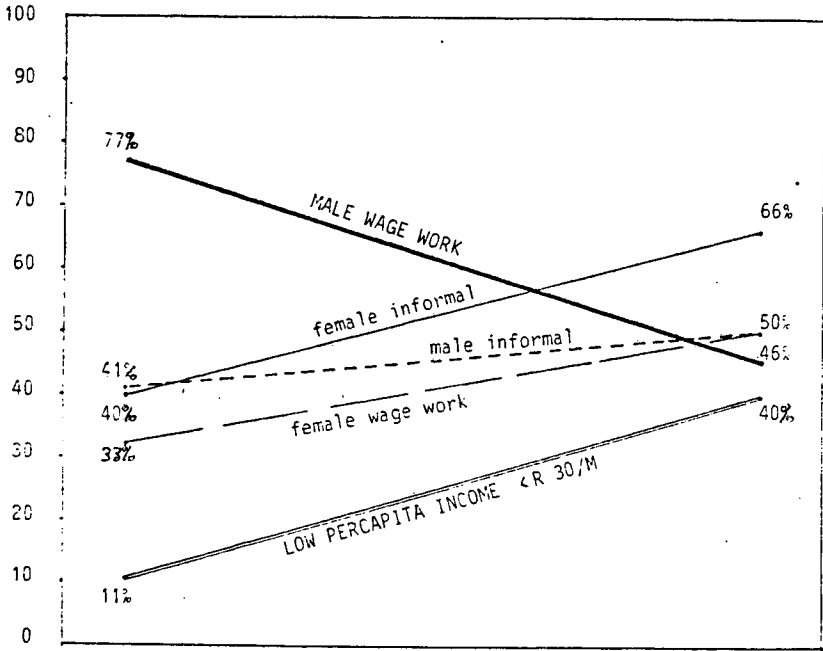


FIGURE 3: HOUSEHOLD INVOLVEMENT IN FORMAL AND INFORMAL EARNING FOR STRONG AND WEAK HOUSEHOLDS



STRONG HOUSEHOLDS:  
SLIGHT DISLOCATION

WEAK HOUSEHOLDS:  
SEVERE DISLOCATION

Composite percent for all dislocation indices, households receiving income from major economic support options

N = 103

With this in mind we tested the results for these three indicators against household per capita income as an operational measure of poverty. We confirmed the first hypothesis about the relationship of poverty to economic distortion, but failed dismally to sustain the social hypothesis. What we found was that economic dislocation showed the expected linear, significant relation to household per capita income ( $-.25, p = .005$ ) but the social dislocation index gave only a weak non-significant relation. Worse, we found the single-generation Households, the most severely distorted category of household structure, had the highest per capita income, far above what the normative households were getting. This sent us back to the drawing board.

We were confident from what we knew from field experience of single-generation households that they didn't behave as rich - most of them seemed from outside inspection to be poor. So we did not abandon our social hypothesis entirely; and we thought we had a clue to what was happening in the support configuration of these households (Fig. 4). In spite of their high per capita income, their lines of support looked more like what we had just found for poor households. They appeared to have the potential for exploiting the formal job market successfully, but men in these households were likely to stay at home and do informal work, often very low-paid, and the women went out to do formal work more often than they did informal earning. It looked like we were dealing with households that were economically strong but socially weak.

This led us to think about what took place inside the household, after income had entered it. We set up a third hypothesis, stating that the major problem in these paradoxical households was ineffective pooling of resources. From what we knew of them not very much income was being committed to the household's future; there was a tendency for individual household members to keep their money as personal disposable income, contributing very little to the general day-to-day support of the household, and also practically nothing to investment in the long term. In other words, little is shared for food, medicine, transport or housing, but comparatively a lot goes out for consumable items like clothing and entertainment.

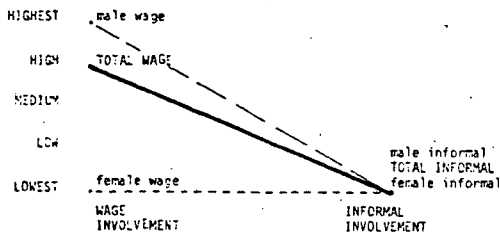
We conceptualized this tendency as relating to weak social role structure, and an accompanying lack of mutual commitment. This can be traced further back to the absence of children, who are the organizational nucleus of



FIGURE 4: PROFILE OF FORMAL AND INFORMAL INVOLVEMENT FOR HOUSEHOLD TYPES

NORMATIVE HOUSEHOLDS

10% have total percapita income below R 30 per month



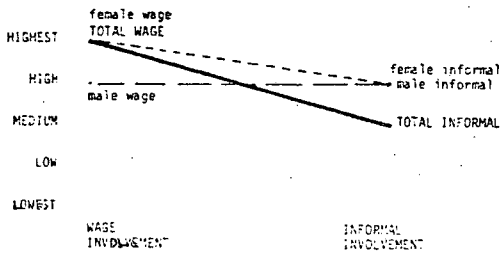
Relative Participation

highest male wage  
 lowest female wage  
 high total wage

lowest male informal  
 lowest female informal  
 lowest total informal

SEMI-NORMATIVE HOUSEHOLDS

18% have total percapita income below R 30 /m

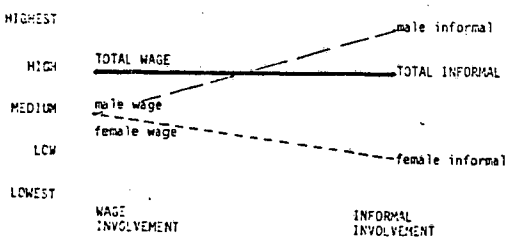


high male wage  
 highest female wage  
 highest total wage

high male informal  
 high female informal  
 medium total informal

SINGLE-GENERATION HOUSEHOLDS

24% have total percapita income below R 35 /m

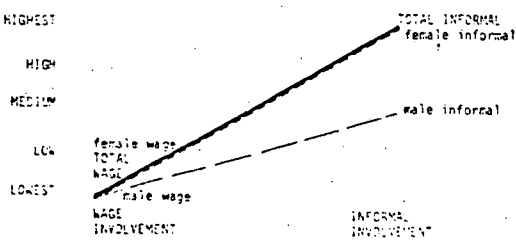


medium male wage  
 medium female wage  
 high total wage

highest male informal  
 low female informal  
 high total informal

FEMALE-HEAD HOUSEHOLDS

43% have total percapita income below R 30 /m



lowest male wage  
 low female wage  
 lowest total wage

medium male informal  
 highest female informal  
 highest total informal

a KwaZulu household, giving it the stake in its future which holds together the aspirations of the household as a unit. Individuals living in a socially marginal household with no clear future often seemed to compensate for their lack of solid standing in their community by continual short-term expenditure aimed at quick payoffs in personal status. Consequently, money was getting burned off without doing the household any lasting good - it was coming in and going out without leaving much trace.

We could therefore state this third hypothesis as :

3. *Social weakness in household structure is a determinant of poverty that works mainly on the resource allocation process once income has entered the household.*

To test this new hypothesis, we needed a different indicator of poverty, one which was keyed to the end product of the poverty process rather than to cash income as it enters the household. Here we used an assessment of community economic standing which we derived from a rating exercise carried out with local people acting as judges. We asked our respondents to rank-order the households in the sample according to how they perceived their neighbour's economic standing, from relatively rich to very poor. This gave us a community-eye view of poverty, based on the assumption that the community knows who is poor and who is not.

This time we got something much closer to what we had predicted. The social dislocation index now showed a  $-.17$  relation, which we could improve to  $-.19$  by collapsing the coding; this made the strength of prediction for social dislocation nearly level with the result for the economic dislocation index, which also produced  $-.20$ ,  $p = .02$ . In other words, if we look at poverty as it appears to the community the social dislocation index then improves about 75% on the earlier result, and the economic dislocation index slips by about 25%. We could argue that we therefore had confirmation of the third hypothesis.

Likewise, the single-generation households, which had by far the highest percapita incomes, slipped from first to second-last in relation to ranked economic standing. In spite of having substantial income levels coming into the household per person, they now ranked after both the normative and the

semi-normative households. They were still ahead of the female-core category, which is the one that suffers all the classic disabilities of the poverty syndrome, but their relative advantages in terms of potential access to the labour market did not seem to be giving them the kind of perceptible standard of living associated with economic well-being. In particular, they did not use their potential access to the labour market to the extent that they might have done; for men, informal work was more common than formal work.

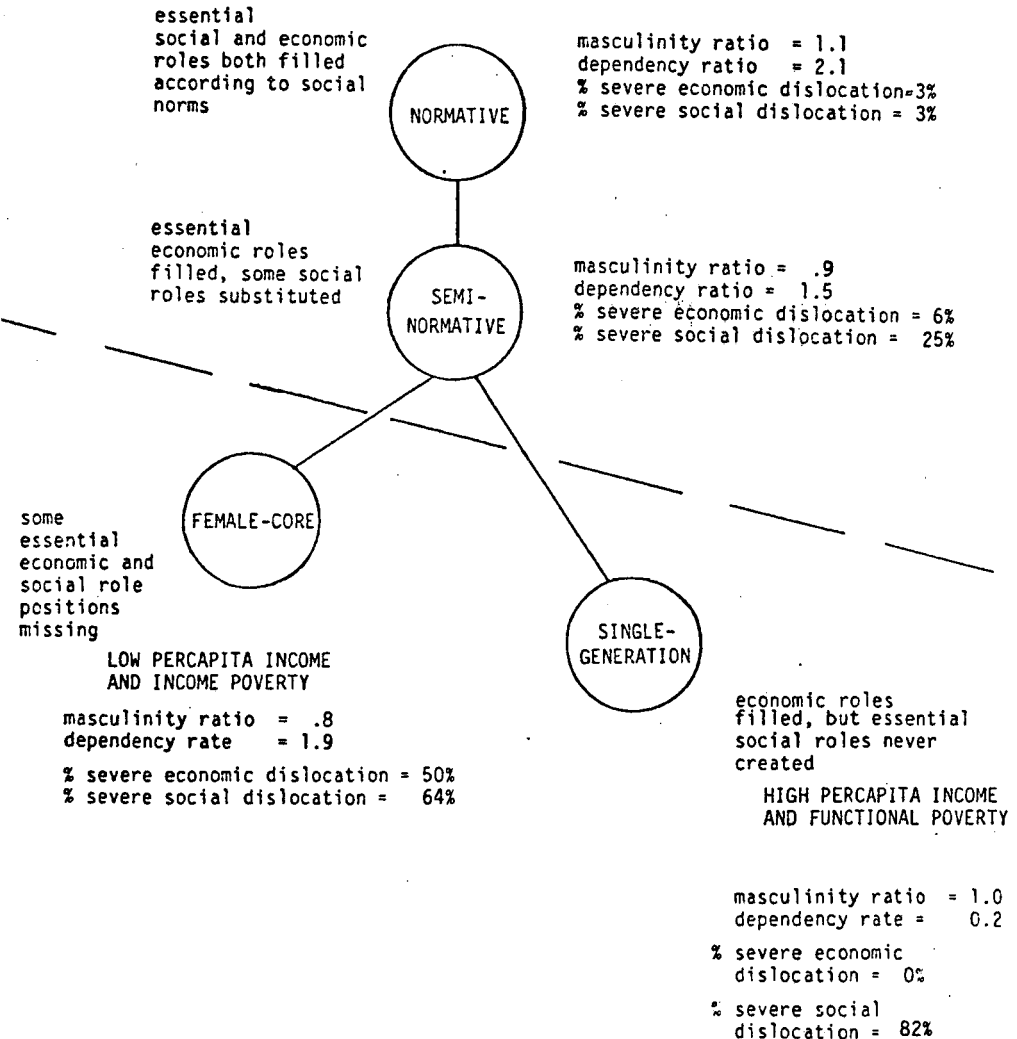
On the basis of the above we can distinguish two types of poverty process. The first is income poverty - the straightforward kind affecting female-core households - and the second is functional poverty, poverty which is related to resource allocation and to the internal dynamics of the household. It is functional poverty which affects single-generation households, which have high apparent economic viability, but a relatively low level of perceptible welfare. (Fig. 5).

Our results point to the fact that poverty is a time series, a process that develops over time. Poverty by our interpretation does not happen all at once, and it is likewise not solely a function of access to the job market of the developed economy. Instead, a lot takes place at a later point, within the household.

If this is so, then some critical questions arise in assessing poverty. If it relates to resource allocation as well as to basic income, then income data alone will not always give a reliable assessment of actual poverty as it is experienced. One contribution of our study may lie here, in that we have tried to show that the processes involved are accessible to research. The social indices which we have presented begin to give a reasonable quantitative assessment of how much social damage a distorted household has sustained. Methods can therefore be found which will support concrete, number-oriented research into weak household structure, and these three measurement indices only scratch the surface of the possibilities.

In conclusion, the results and the problem should both be placed in a regional context. The types of distorted household structure we are looking at for this peri-urban sample are almost urban in character, and are a product of the very rapid modernization found in many similar areas in the mobilized peri-urban periphery. Eleanor Preston-Whyte's research

FIGURE 5 : FUNCTIONAL AND INCOME POVERTY IN RELATION TO TYPES OF DISTORTED HOUSEHOLD



from areas further out in KwaZulu shows, however, that not all districts have an equally high incidence of distorted household structure. Therefore, if we want to identify vulnerable groups in relation to poverty, one way to do it is to assess both economic and social damage to household integrity in a local population, and then relate it to the dynamics of modernization and economic change at the regional level.

#### NOTES

1. See for instance Eames and Goode 1973, Knight 1980 : 344, 349-351; Spiegel 1980; Murray 1981.
2. Kerblay 1971; Chayanov 1972; Sahlins 1972.

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