of largely unexploited data, although the pace of work has recently been increasing, see, for example, the survey paper on India by Bhattacharrya (1978), the work on Latin America by Musgrove (1978), Howe and Musgrove (1977), on Korea by Lluch, Powell and Williams (1977, Chapter 5) and on Sri Lanka by Deaton (1981c).

In this section, 1 deal with four issues. The first is the specification and choice of functional form for Engel curves. The second is the specification of how expenditures vary with household size and composition. Third, I discuss a group of econometric issues arising particularly in the analysis of micro data with particular reference to the treatment of zero expenditures, including a brief assessment of the Tobit procedure. Finally, I give an example of demand analysis with a non-linear budget constraint.

3.1. Forms of Engel curves

This is very much a traditional topic to which relatively little has been added recently. Perhaps the classic treatment is that of Prais and Houthakker (1955) who provide a list of functional forms, the comparison of which has occupied many manhours on many data sets throughout the world. The Prais—Houthakker methodology is unashamedly pragmatic, choosing functional forms on grounds of fit, with an attempt to classify particular forms as typically suitable for particular types of goods, see also Tornqvist (1941), Aitchison and Brown (1954-5), and the survey by Brown and Deaton (1972) for similar attempts. Much of this work is not very edifying by modern standards. The functional forms are rarely chosen with any theoretical model in mind, indeed all but one of Prais and Houthakker's Engel curves are incapable of satisfying the adding-up requirement, while, on the econometric side, satisfactory methods for comparing different (non-nested) functional forms are very much in their infancy. Even the apparently straightforward comparison between a double-log and a linear specification leads to considerable difficulties, see the simple statistic proposed by Sargan (1964) and the theoretically more satisfactory (but extremely complicated) solution in Aneuryn—Evans and Deaton (1980).

More recent work on Engel curves has reflected the concern in the rest of the literature with the theoretical plausibility of the specification. Perhaps the most general results are those obtained in a paper by Gorman (1981), see also Russell (1983) for alternative proofs. Gorman considers Engel curves of the general form

wi= E air(p)Minx), (75)
r.R

where *R* is some finite set and OA) are a series of functions. If such equations are