

the object of most attention and I shall concentrate the discussion around them, but other household characteristics can often be dealt with in the same way, (e.g. race, geographical region, religion, occupation, pattern of durable good ownership, and so on). If the vector of these characteristics is a , and superscripts denote individual households, the general model becomes

$$= gkc^h, p, a^h), \quad (82)$$

with g , taken as common and, in many studies, with p assumed to be the same across the sample and suppressed as an argument in the function.

The simplest methodology is to estimate a suitable linearization of (82) and one question which has been extensively investigated in this way is whether there are economies of scale to household size in the consumption of some or all goods. A typical approach is to estimate

$$e = a_i + A_i n^h + y_i \ln n^h + u_i, \quad (83)$$

where n^h is the (unweighted) number of individuals in the household. Tests are then conducted for whether $(y, +, -, 0)$ is negative (economies of scale), zero (no economies or diseconomies) or positive (diseconomies of scale), since this magnitude determines whether, at a given level of per capita outlay, quantity per head decreases, remains constant, or increases. For example, Iyengar, Jain and Srinivasan (1968), using (83) on data from the 17th round of the Indian N.S.S. found economies of scale for cereals and for fuel and light, with roughly constant returns for milk and milk products and for clothing.

A more sophisticated approach attempts to relate the effects of characteristics on demand to their role in preferences, so that the theory of consumer behavior can be used to suggest functional forms for (82) just as it is used to specify relationships in terms of prices and outlay alone. Such models can be used for welfare analysis as well as for the interpretation of demand; I deal with the latter here leaving the welfare applications to Section 7 below. A fairly full account of the various models is contained in Seaton and Muellbauer (1980a, Chapter 5) so that the following is intended to serve as only a brief summary.

Fully satisfactory models of household behavior have to deal both with the specification of needs or preferences at the individual level and with the question of how the competing and complementary needs of different individuals are reconciled within the overall budget constraint. The second question is akin to the usual question of social choice, and Samuelson (1956) suggested that family utility u , might be written as

$$u^h = V \{ u^l(q^l), u^k(e) \}, \quad (84)$$

