

Equivalence Scales

The basic welfare indicator used for constructing the poverty profile is a transformation of the total household scale variable (income or consumption) (Y) reported

in Indest 1993 (!). It is given by $y_i = \frac{Y_j}{n_i^q}$, where household i lives in j, n is the number of household members, $q \in (0,1)$ is the Buhmann et. al. (1988) equivalence scale parameter, and I_j is the price deflator for spatial area j. The recipient unit is the individual, which is to say that the distribution analyzed is a vector of y, where y_i is entered n_i times. The usefulness of this concept to check the sensitivity of poverty or inequality estimates to different assumptions about economies of scale is well established (see Coulter et. al., 1992, and Ferreira and Litchfield, 1996a).

The greater is equivalence scale parameter q the greater are assumed economies of scale intensity. Figure 7 compares the value assumed by Menke (1998) equivalent scale parameter used in the basic poverty scenario by size of household and the ones found for different q values found. At four household members Menke (1998) parameter equals the value assumed by q equals 0.5. Similarly, at 10 household members q is approximately equal to the value assumed by q equals 0.75. Table below presents a sensitivity analysis of aggregate poverty measures with respect to the economies of scale parameter q .

Figure 7:Equivalence Scale (thetas) and Household Size (n)

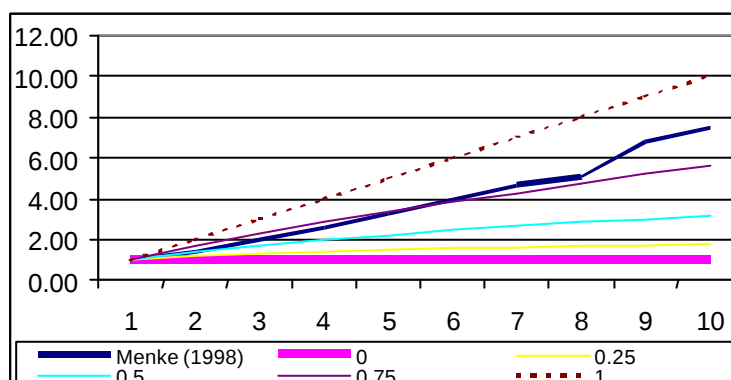


Table 14

Equivalence Scales Robustness Tests - 2000

Sample: All Households - Expenditures

(Theta = 0)

Poverty Indices	Per Capita Expenditures	P0 (%)	P1 (%)	P2 (%)
Total	60,662	3.59	1.32	0.64
Male	61,279	3.63	1.39	0.66
Female	60,098	3.55	1.26	0.62

(Theta = 0.25)

Poverty Indices	Per Capita Expenditures	P0 (%)	P1 (%)	P2 (%)
Total	60,662	8.1	2.8	1.4
Male	61,279	8.1	2.8	1.5
Female	60,098	8.0	2.7	1.4

(Theta = 0.5)

Poverty Indices	Per Capita Expenditures	P0 (%)	P1 (%)	P2 (%)
Total	60,662	12.7	5.2	2.9
Male	61,279	12.0	5.2	3.0
Female	60,098	13.4	5.2	2.8

(Theta = 0.75)

Poverty Indices	Per Capita Expenditures	P0 (%)	P1 (%)	P2 (%)
Total	60,662	29.7	10.6	5.7
Male	61,279	28.9	10.3	5.7
Female	60,098	30.5	10.9	5.8

(Theta = 1)

Poverty Indices	Per Capita Expenditures	P0 (%)	P1 (%)	P2 (%)
Total	60,662	52.15	21.89	12.15
Male	61,279	51.82	21.66	12.00
Female	60,098	52.46	22.10	12.29

Source: GPHS2000