

Intra-household Resource Allocation in Kenya

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Background and Rationale

- The welfare of an individual is based on a complex set of interpersonal interactions.
- The interactions can affect, and be affected by, the creation (and dissolution) of many institutional forms: family, household, business, club, or commune, to name a few.
- For the first two institutions in this list, both the processes by which resources are allocated among individuals and the outcomes of those processes are commonly referred to as "intra-household resource allocation."
- The relations between genders are characterised by inequality and mirrored by the division of labour within household and differences in men's and women's ownership rights and access to markets.

Background and Rationale

- These differences matter because they cause inefficiency and help to explain food security status.

Objectives

- Identify goods that are demographically separable from children. These goods could be called adult goods i.e. goods that are not consumed by children.
- Examine the relationship between adult goods and total expenditure.
- Test for gender discrimination in the intra-household allocation of consumption.

Model

- **Demographic Separability- Identification of adult goods**

$$P_i Q_i = \alpha_{0i} + \alpha_{1i} X_G + \sum \alpha_{2ij} n_j + \delta_i \cdot Z + \varepsilon_i$$

- **Measuring Discrimination- Almost Ideal Demand System**

$$w_i = \frac{P_i Q_i}{x} = \alpha_i + \beta_i \ln(x/n) + \eta_i \ln n + \sum_{j=1}^{j-1} \gamma_{ij} (n_j/n) + \delta_i \cdot Z + u_i$$

$$\pi = \frac{\eta_i + \beta_i + \gamma_{ij} - \sum_{j=1}^{j-1} \gamma_{ij} (n_j/n)}{\beta_i + \eta_i}$$

$P_i Q_i$	- expenditure on candidate adult good
N_j	- number of members in each demographic category (age 0-4, 5-9, 10-14, 15-55, 55+) male and female
X_G	- total expenditure on adult good
W_i	- expenditure share of commodity i
n	- is the total number of household members
Z	- vector of explanatory variables
E_i	- is the error term

Deaton *et al* (1989: 183)

Data and Results

- **Data**

- Welfare Monitoring Survey III (WMSIII) data was used which is a comprehensive survey carried out by the government in 1997. A sample of over 11,000 households with more than 60,000 individuals.

- **Demographic Seperability**

- **Candidate Adult Goods**

- Alcohol, cigarettes, meals out, entertainment, personal care adult clothing and adult footwear.

- **True adult goods**

- National - Alcohol, cigarettes, meals out, entertainment and adult clothing.
- Urban - Cigarettes, entertainment, Personal Care, adult clothing and Adult footwear
- Rural - Alcohol, cigarettes, meals out and entertainment.

- **Commodities dropped**

- Entertainment, adult footwear, personal care and meals out were dropped to avoid sample bias since a small percentage of households consumed these goods

Results

Adult goods and total expenditure

- At national level,
 - the all adult goods had elasticity >1 , all adult is a luxury good
 - Adult clothing and alcohol have elasticities >1 making them luxury goods.
- In the rural areas
 - alcohol had an elasticity of 1.007 –luxury good
- urban area
 - adult clothing had an elasticity of 1.0153.
- Cigarette elasticities were 0.9997, 0.9999 and 0.9989 for national, rural and urban respectively.

Results

National Level

- All adult goods
 - m0-4 had a negative pi-ratio
 - m5-9 had greater pi-ratio compared to f5-9
 - f10-14 had greater pi-ratio compared to m10-14
- Cigarette-the male 5-9 and female 10-14 seem to be favoured
- adult clothing - female 0-4, 10-14 and male 5-9 ,
- alcohol: male 5-9 and 10-14 who are favoured.
- Test of equality (all adult) using bootstrap method found the results not to be significant

Rural Sample

- All adult goods- there is a bias in favour of the male age 5-9
 - The test for equality for children 5-9 is not accepted.

Results

- Cigarettes- all the female age categories have positive pi-ratios
- alcohol, the female 0-4 and 5-9 are favoured.
- the test of gender equality (all adult) is not accepted at 5 percent.

Urban Sample

- all adult- the male 5-9 and the female 10-14 are more favoured
- Cigarette-the male 5-9 and female 10-14 are favoured
- adult clothing male 5-9 and female 10-14 are favoured
- the test of gender equality (all adult) is not accepted at 5 percent

Conclusion and Future Work

Conclusion

- While goods like alcohol, and cigarettes are considered to be adult goods, evidence from the analysis shows that alcohol is not an adult good in the urban areas.
- The study does not find any bias in favour of male or female using the Kenyan data using the Deaton Model
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Further Research

- Household level equations tend to fail to pick up gender bias in about one third of the cases where the individual level equations showed significant bias
- Further research with different methodologies and unit of analysis as found by Kingdon (2003)