Economic Analysis of Consumer Choices Based on Rice Attributes in the Food Markets of West Africa – The Case of Benin.

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Introduction

The study examined consumer valuation of rice attributes (a non market good) using market price of rice as an indicator. In addition the study analyzed how consumer preferences and purchasing decisions are influenced by country of origin, product price, the individual's socioeconomic characteristics and specific product attributes.

Methods

To map of Benin rice consumers we use hedonic function analysis. In addition we also characterized consumers' choice based on the product origin i.e., country of origin that includes not only the socio-economic factors such as income but also product prices and its characteristics. In this study we first examined the relationship between price (implicit) paid by the consumers based on key rice consumption attributes as observed, in the market. A logit model was used to empirically determine consumer choices that provide estimates of the utility or value consumers place on different alternatives (McFadden, 1974).

Data and Results

Data was collected from ten administrative zones including four major rice growing regions during the year 2006. a total of 546 consumer households from both rural and urban areas were interviewed with the aid of a structured questionnaire.

Table 1 Hedonic pricing regression results

Y = Price	All regions	South	Centre	Northeast	Northwest
No foreign matter	4.23	5.39	-24.66**	26.69***	-2.05
White rice	-6.15	21.94	1.16	-22.82***	-8.04
Few broken grains	17.56***	17.90	10.60	14.57	15.98
Long grain	12.36**	26.77**	10.44	4.62	10.58
Aroma	3.66	41.39***	-8.65	-9.36	9.93
Grain size after cooking	-8.97*	-76.11***	10.35	20.47***	9.07
Swelling	-6.42	34.22*	-12.69	-21.30***	-2.91
Precooked/Parboil	28.33***	5.18	39.39***	33.85***	36.03***
Country of origin	31.89***	41.86***	20.75**	33.09***	35.91***
Income	0.00***	7.95	0.00***	5.17	0.00
Urban household	31.20***	49.92***	-2.99	20.01***	30.20***

Table 2 Logit regression results

Y= Imported rice	All regions	South	Centre	Northeast	Northwest
No foreign matter	1.94***	0.75	3.85***	3.88***	2.24***
White grains	1.96***	2.06***	3.37***	2.19**	1.70***
Few broken grains	1.99***	2.33***	3.01**	2.06***	2.29***
Long grain	-2.65***	-4.25***	-4.70***	-1.74***	-4.15***
Time to cook	1.07***	2.26**	2.71**	0.11	1.24**
Grain cohesion	-0.74***	-0.56	-2.31***	-0.58	-0.77
Taste	-1.49***	0.24	-0.96	-1.51*	-1.73**
Grain size after cooking	-0.27	1.85**	0.28	-1.51***	-0.33
Swelling capacity	1.38***	0.65	-1.51	-2.67***	-2.35***
Price	0.01***	0.03***	0.02***	0.01***	0.01**
Age	-0.02**	-0.00	-0.04*	-0.03	-0.04*
Pseudo R^2	50%	64%	57%	65%	53%
Log likelihood	-265.19	-44.38	-45.18	-57.18	-62.31
Chi 2(20)	0.0000	0.0000	0.0000	0.0000	0.0000

Price of rice in Benin, 2002 (FCFA)

Source ADRAO/INRAB/PAPA, 2006
1US$ = 453 FCFA
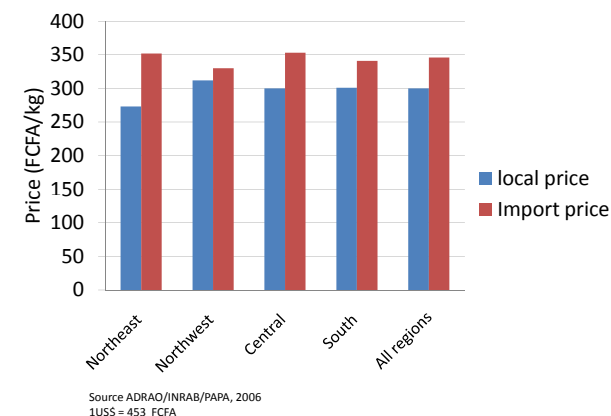
Conclusion

The rice consumers in Benin value product attributes that includes both physical appearance and the cooking quality in their purchase decisions. This was evaluated by analyzing the purchase decisions of 546 rice consuming households in the four major regions of Benin for the year 2006. For this purpose we used two econometric approaches namely hedonic pricing approach and discrete choice models. The results from both these models confirmed our major hypotheses that purchase decisions i.e., pricing of consumers goes along with product attributes and that consumers are willing to pay a premium for certain qualities of rice in the markets

References
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