



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

**Impact of Source and Quality on the Demand for Rice Imported
in Cote d'Ivoire**

Jeanne Y. Coulibaly*

Africa Rice Center

**Poster prepared for presentation at the Agricultural and Applied Economics
Association's 2013 AAEA and CAES Joint Meeting Association Washington
DC August 4-6, 2013**

*Copyright 2013 by Jeanne Y. Coulibaly. All rights reserved. Readers may make verbatim copies
of this document for non-commercial purposes by any means provided that this copyright notice
appears on all such copies.*

*Corresponding author. Contact: J.Coulibaly@cgiar.org

Impact of Source and Quality on the Demand for Imported Rice in Cote d'Ivoire

Jeanne Y. Coulibaly (J.Coulibaly@cgiar.org)
Africa Rice Center (AfricaRice), 01 BP 2031 Cotonou

Introduction

- Rice is a major cereal consumed in Côte d'Ivoire as in other West African countries. In 2008, food expenditure was estimated at 3,380 million Euro, with spending on rice representing 17% of the food budget (DSDI and INS, 2011).
- Heavy reliance on imports to satisfy domestic demand in rice means 935,000 T of rice were imported in 2011, which represents more than 60 percent of the national consumption in rice .
- The rapid expansion of rice imports in Côte d'Ivoire, as in many West African countries, has been classed as a perverse effect of trade liberalization on small producers' livelihoods and one that hampers development of the domestic rice sector (OXFAM, 2005).
- As a result, producers, with development and lobbying organizations in the ECOWAS customs union, are pushing hard for more protection of the domestic rice sector through an increase in the import tariff.

Objectives

- Provide an estimate of the demand elasticity for different qualities of rice imported into Côte d'Ivoire from different points of origin
- Analyze the impact of prices and expenditure on Ivorian demand for source differentiated rice
- Derive the implication of the elasticity of demand for imported rice in Côte d'Ivoire in the tariff policy debates

Methods

- A first source-differentiated linear approximation of the almost ideal demand system (AIDS) is used to estimate the demand elasticity for the imported rice by quality of rice and origin.

$$w_{ih} = \alpha_{ih} + \sum_j \sum_k \gamma_{ihjk} \ln p_{jk} + \beta_{ih} \ln(E/P)$$

- Common conditions of adding up, homogeneity and symmetry are imposed to satisfy the general demand theory

- The Marshallian uncompensated price elasticity were calculated

- Previous empirical studies (Eales and Unnevehr, 1988; Henneberry and Hwang, 2007) have found that dynamic adjustments driven by changes in consumer behavior are important and should be

$$\Delta w_{ih} = \sum_j \sum_k \gamma_{ihjk} \Delta \ln p_{jk} + \beta_{ih} \Delta \ln(E/P)$$

- Product aggregation and block separability tests were performed

Bibliography

- DSDI and INS. 2011. "Rapport sur la Dynamique de la Consommation Alimentaire en Côte d'Ivoire." Abidjan, Côte d'Ivoire, 98p.
- Eales, J.S. and L.J. Unnevehr. 1988. "Demand for Beef and Chicken Products: Separability and Structural Change." *American Journal of Agricultural Economics*, 70(3): 521-532.
- Henneberry, S. R. and S-H. Hwang. 2007. "Meat Demand in South Korea: An Application of the Restricted Source-differentiated Almost Ideal Demand Model." *Journal of Agricultural and Applied Economics*, 39 (1): 47-60.
- OXFAM. 2005. "Enfoncer la porte – En quoi les prochaines négociations de l'OMC menacent les agriculteurs des pays pauvres." Oxfam International.

Results

Figure 1. Expenditure Share of Ivorian Rice Imports (1996–2011)

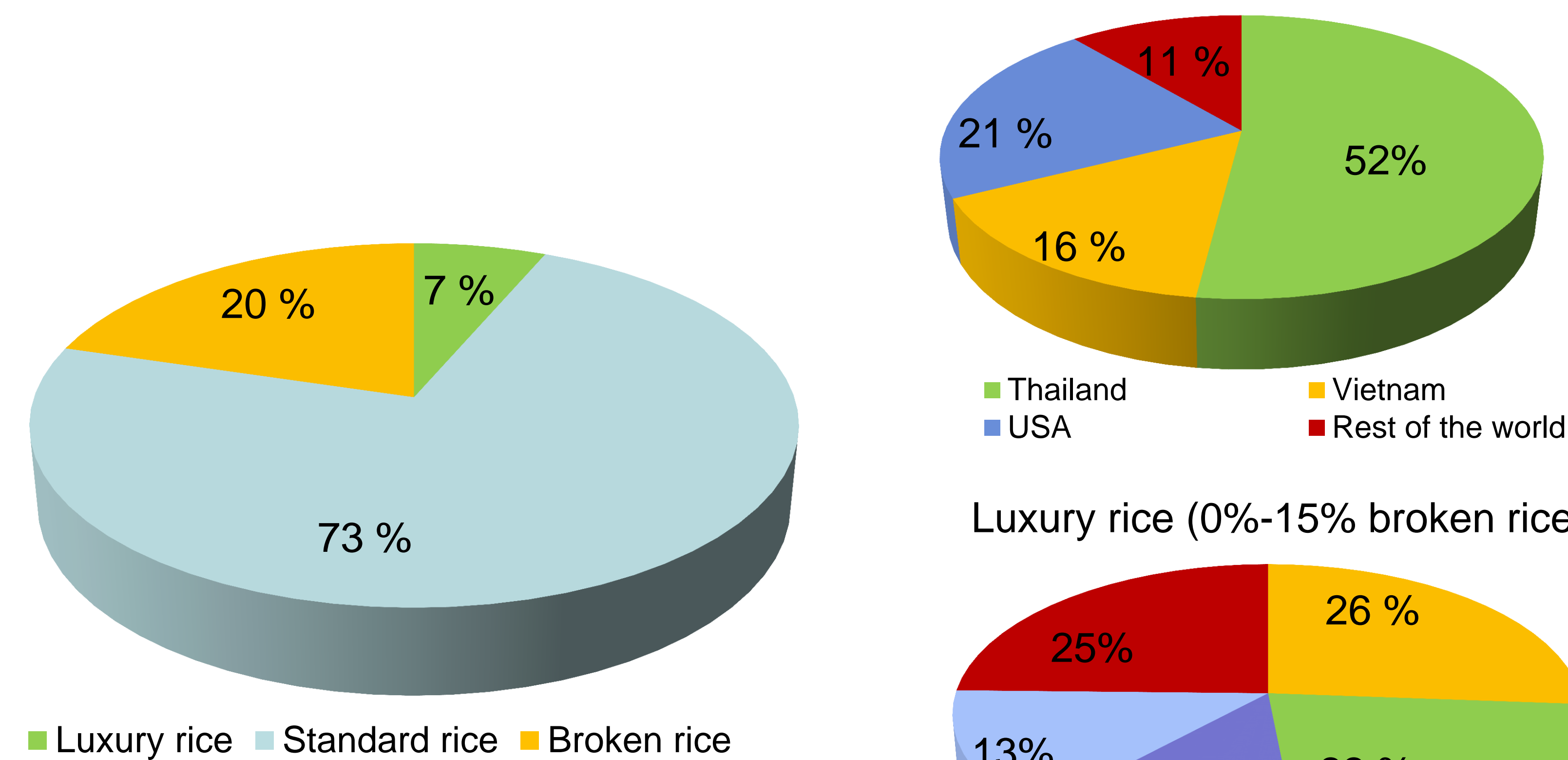


Table 1. Results for product aggregation, block separability and structural change

Product Aggregation	
H0: Luxury rice can be aggregated	Wald Chi Statistic = 5296.86*** D.F=32
H0: Standard rice can be aggregated	Wald Chi Statistic = 1277.67*** D.F=15
H0: Broken rice can be aggregated	Wald Chi Statistic = 4.51 D.F=2
Block Separability	
H0: Luxury rice is separable from all other qualities of rice	Wald Chi Statistic=49.14** D.F=24
H0: Standard rice is separable from all other qualities of rice	Wald Chi Statistic=103.34*** D.F=25
H0: Broken rice is separable from all other qualities of rice	Wald Chi Statistic=68.07*** D.F=9
Parameter Stability	
H0: There is no structural change after 2001	Adjusted Likelihood ratio statistics=2319.19*** D.F=39

*indicates statistical significance at the 10 percent level, ** at the 5 percent level, and *** at the 1 percent level

Figure 2. Own price elasticities

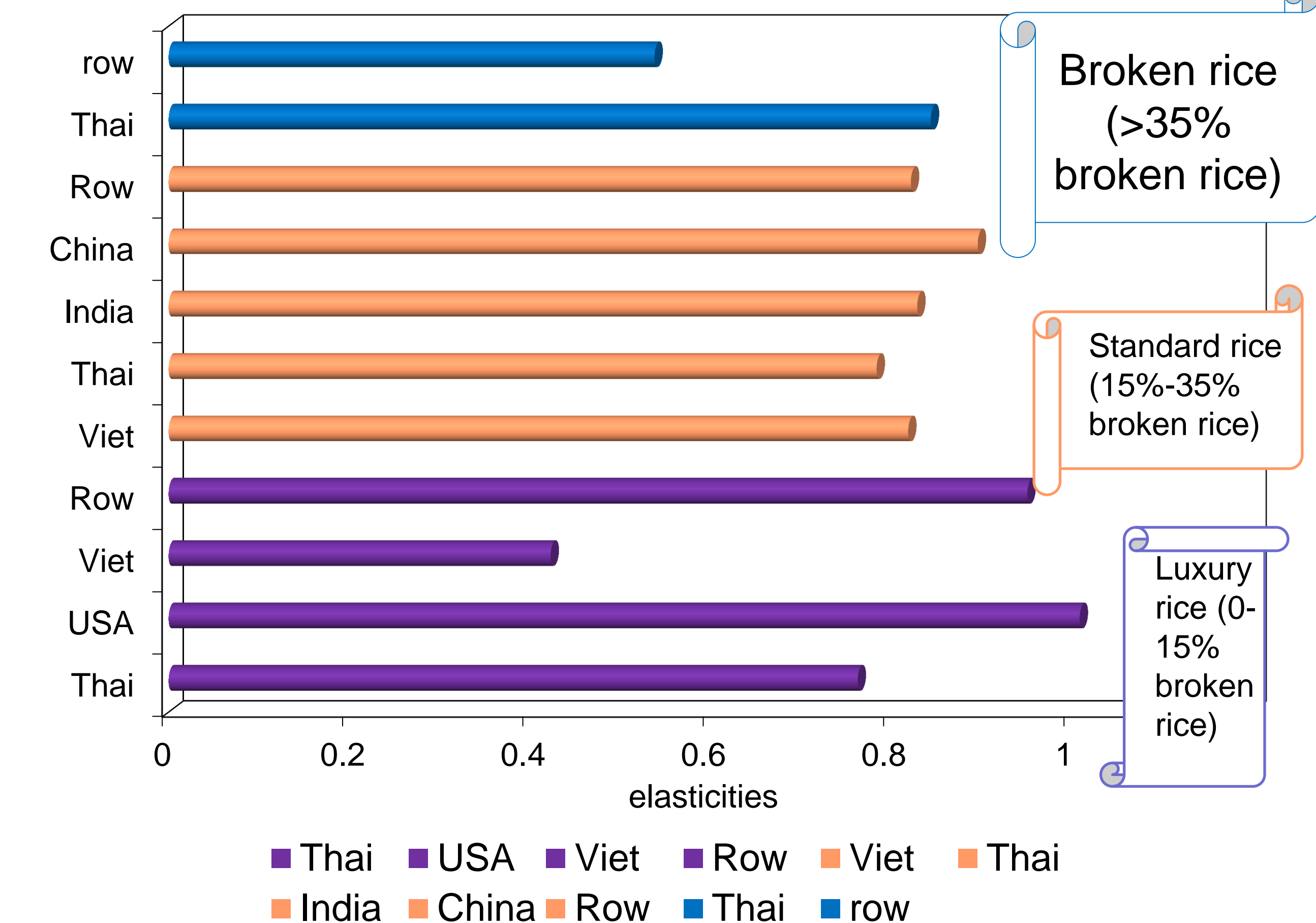
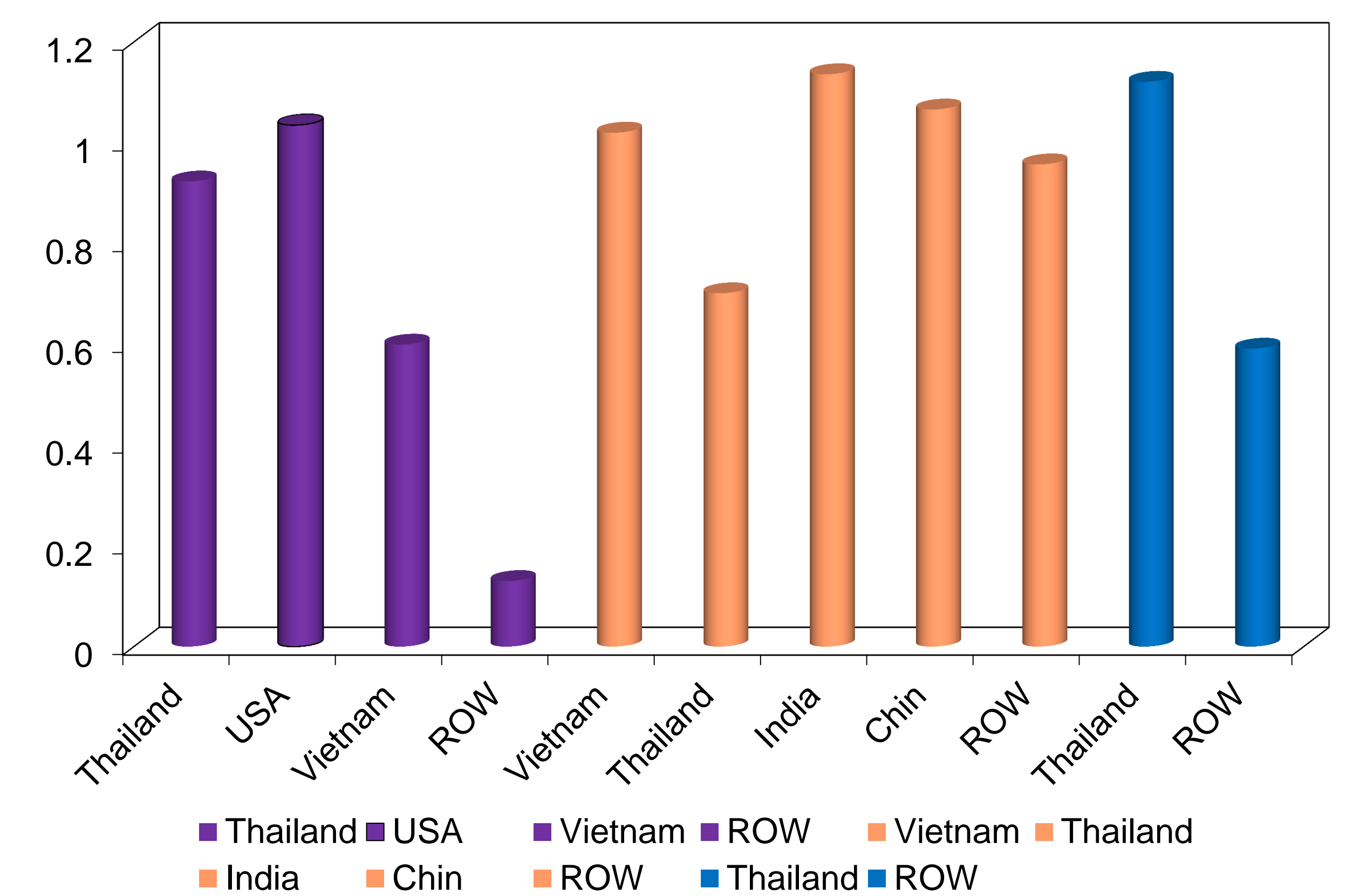


Figure 3. Expenditure elasticities



Conclusion

- Demand for rice imported from all sources is inelastic
 - USA will gain from an expansion of the luxury rice market
 - India will benefit from a growth of the standard rice market and Thailand from the broken rice market
- Implications of the findings of the inelasticity of the demand for imported rice:
- Under a higher import tariff, demand of imported rice will not decrease as much as many people expect
 - Demand for imported rice is likely to remain high if no policies are implemented to boost the local rice sector especially the quality of local rice
 - Government should enhance quality of rice through post harvest, processing, technologies and efficient marketing strategies

