



The United Republic of Tanzania
Agriculture Sector Lead Ministries

4TH ANNUAL AGRICULTURAL POLICY CONFERENCE [AAPC]

Integrating Food and Nutrition Security into Economic Transformation and Industrialization Agenda:

How can agriculture be the driver rather than follower of economic transformation in Tanzania?



New Dodoma Hotel, Dodoma

14th - 16th February, 2018





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Tanzania Edible Oils Demand Analysis: The Effects of Income and Substitutes

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Our Main Question

How do we stimulate the domestic edible oil sector?

- Can tariffs be effective?
- Can taxes (or tax waivers) be effective?



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Outline

The Economic Question

- Price Sensitivity (Elasticity)
- Substitution (Cross-Price Elasticity)

Tanzania Demand

- Household survey data

Findings

The Economics of Policy Options

Buyer's price-sensitivity dictate how price-based policies work

Own-price elasticity of demand

- If prices change, how much will demand change?

Cross-price elasticity of demand

- If prices for other items change, how will demand change?

Income elasticity of demand

- If income changes, how much will demand change?



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Tanzania Demand

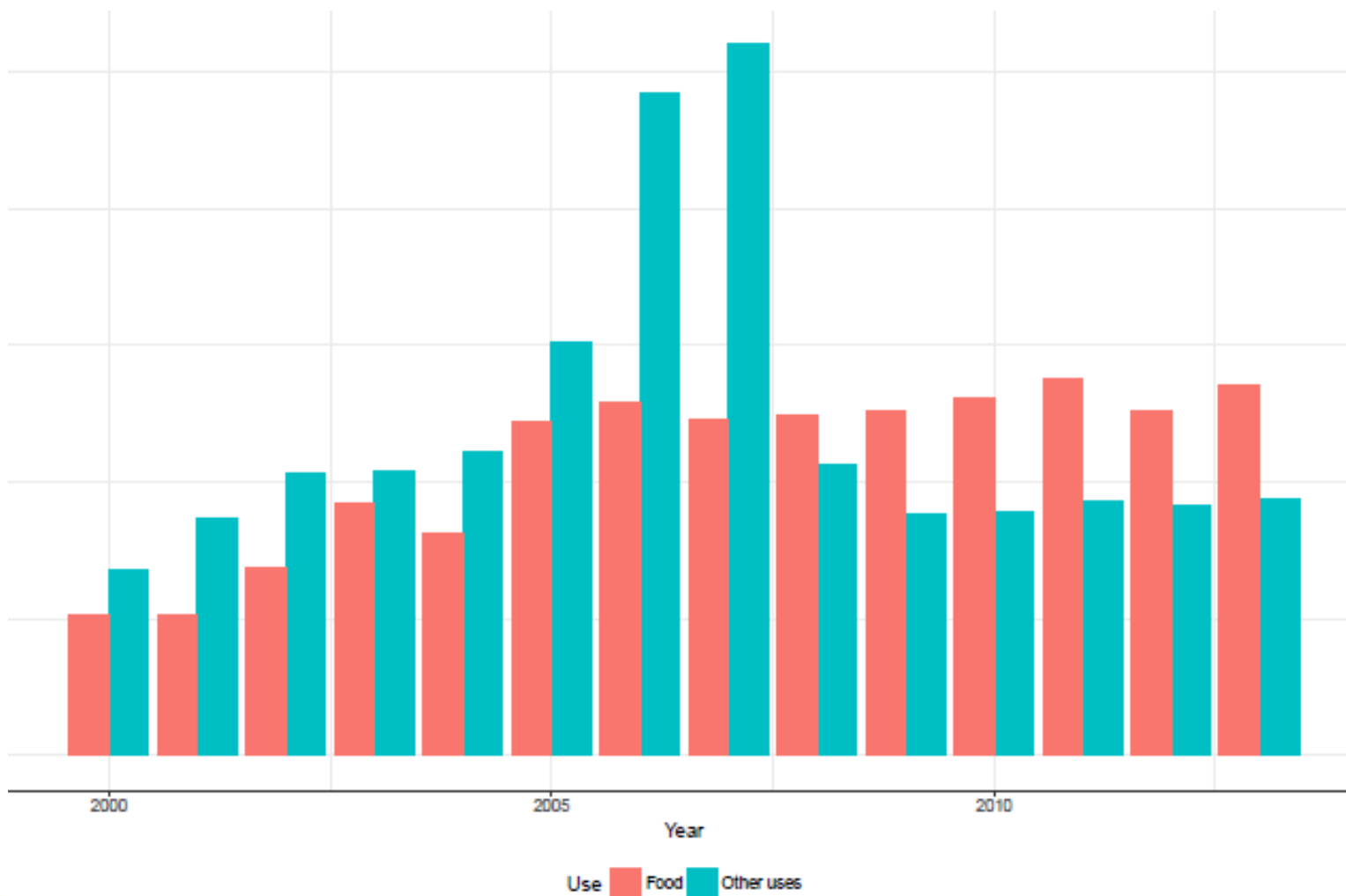
Demand is high and growing

Palm oil has the largest market share
>95% of palm oil used is imported

Sunflower oil is the leading domestic alternative



Uses of Palm Oil





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Tanzania Demand: Household Level Data

Detailed national survey at the household level

Daily records of spending in more than 200 narrowly defined product categories (coicop codes)

More than 80,000 edible oil purchase records.

8,900+ households with spending on edible oils.\newline

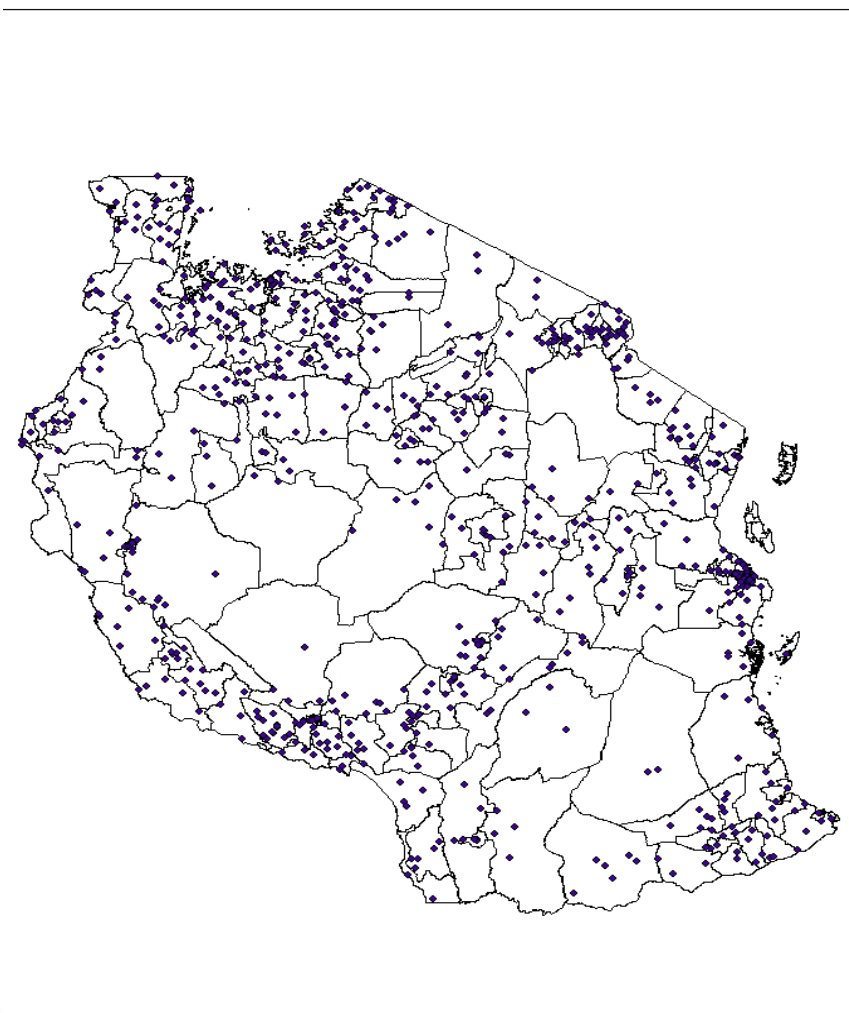
21 regions, 117 districts and 187 wards: rural and urban



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Household Level Data: Coverage





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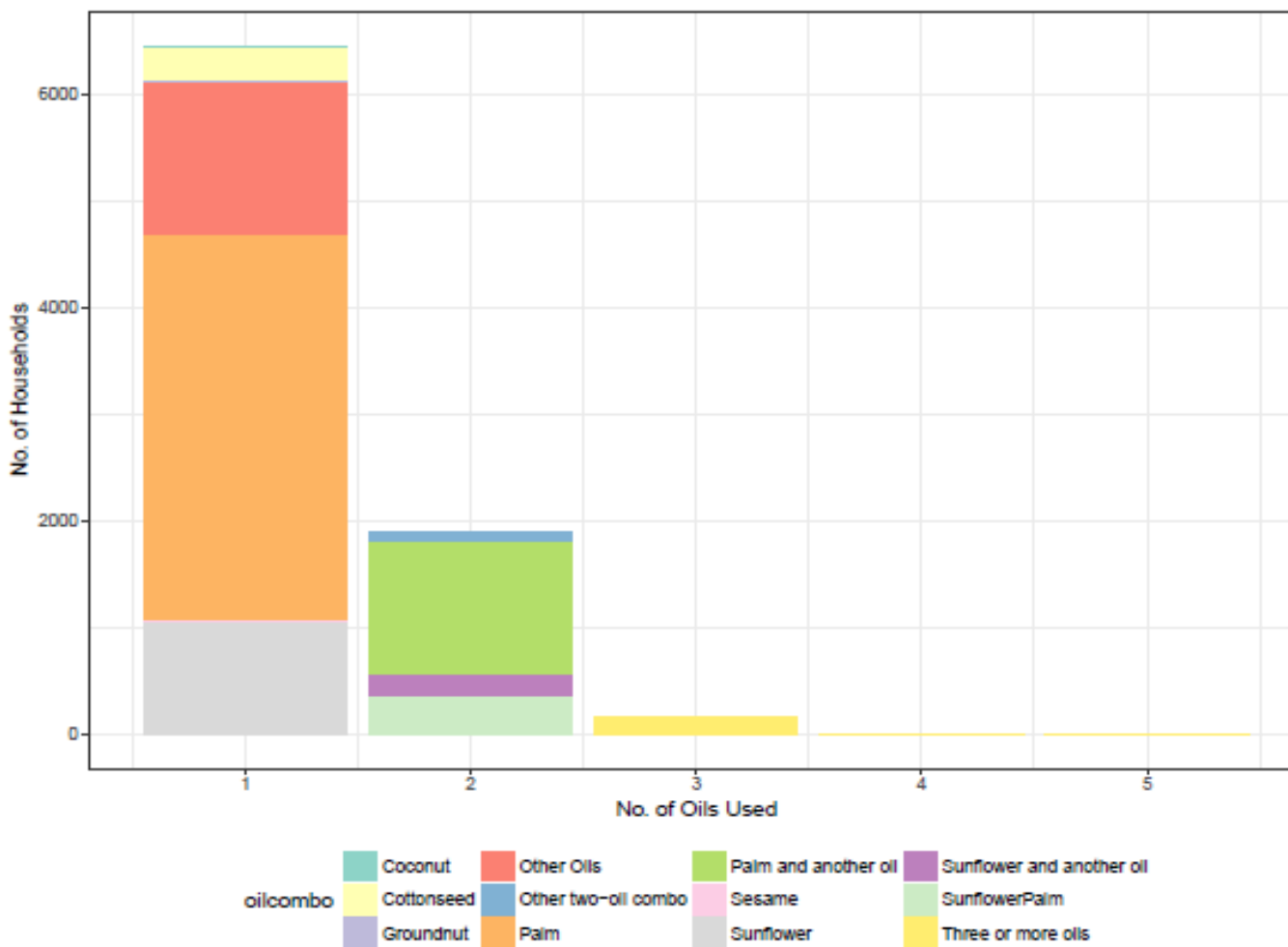
Analytical Approach

We use the Quadratic Almost Ideal Demand-System (QUAIDS) approach to estimate:

- consumer's price-sensitivity for edible oils
- cross-price sensitivity between palm and sunflower oil
- income-sensitivity of edible oil demand



Edible Oil Buying Patterns

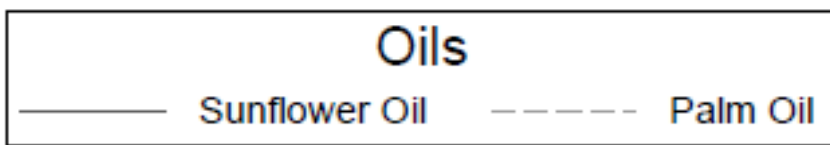
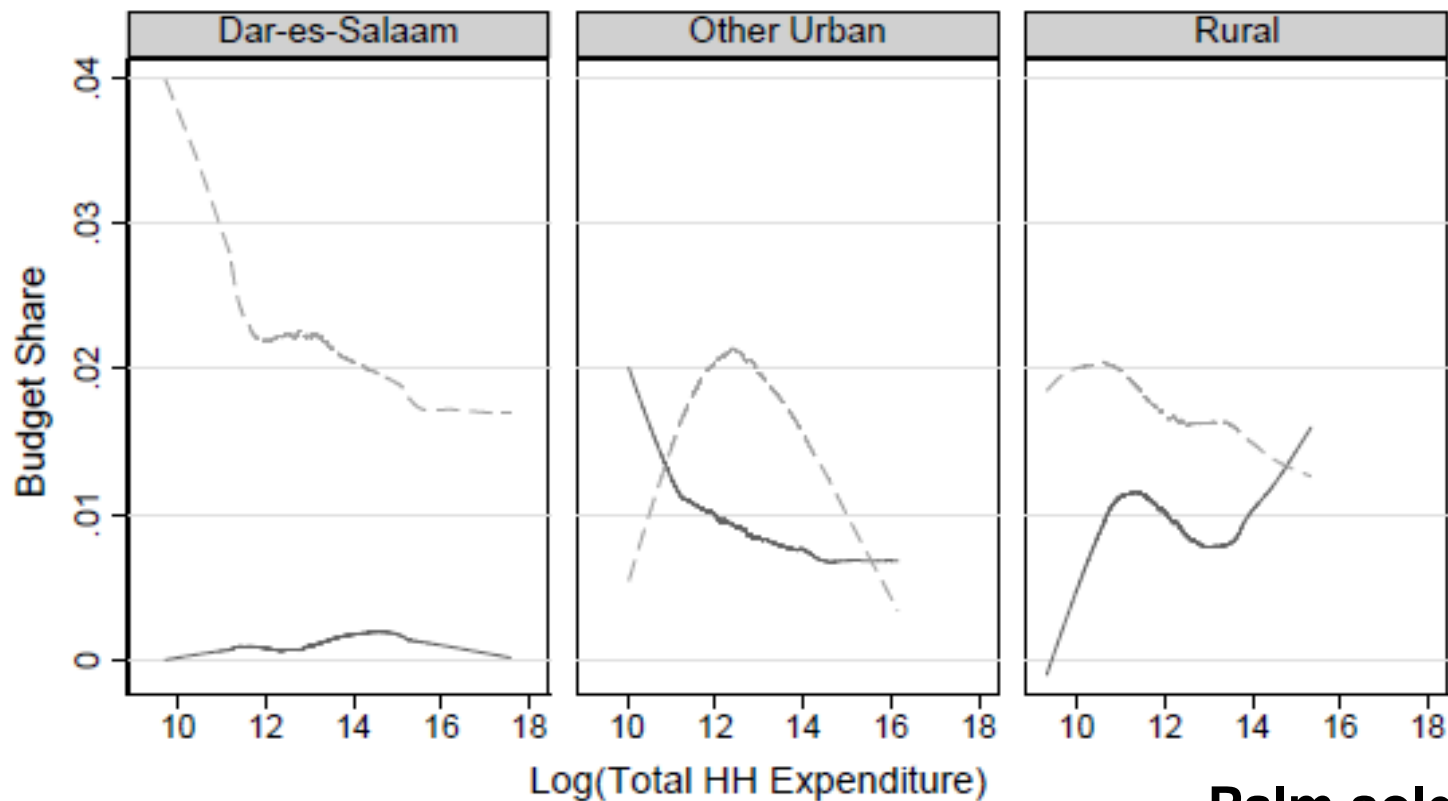




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Urban vs. Rural By Income



**Palm sold in 99.5% of clusters.
Sunflower in 62%
May have distribution challenges**

Graphs by Location



Main Findings

	Sunflower oil b/se	Palm oil b/se	Other edible oils b/se	All other food b/se	Non-food b/se
Sunflower oil	<u>-0.792^{**}</u> (0.303)	0.314 (0.309)	-0.990 (1.098)	0.246 (1.510)	0.002 (1.006)
Palm oil	-0.219 (0.131)	<u>-0.930^{***}</u> (0.096)	0.021 (0.114)	0.129 (0.708)	0.027 (0.290)
Other edible oils	0.231 ^{**} (0.083)	-0.228 (0.133)	<u>-0.709^{***}</u> (0.165)	-0.028 (1.205)	-0.021 (0.518)
All other food	0.055 ^{***} (0.014)	0.034 [*] (0.017)	0.006 (0.016)	<u>-1.039^{***}</u> (0.031)	-0.137 ^{***} (0.031)
Non-food	<u>-0.094^{***}</u> (0.014)	-0.062 ^{**} (0.019)	-0.001 (0.035)	0.057 (0.175)	<u>-0.761^{***}</u> (0.067)

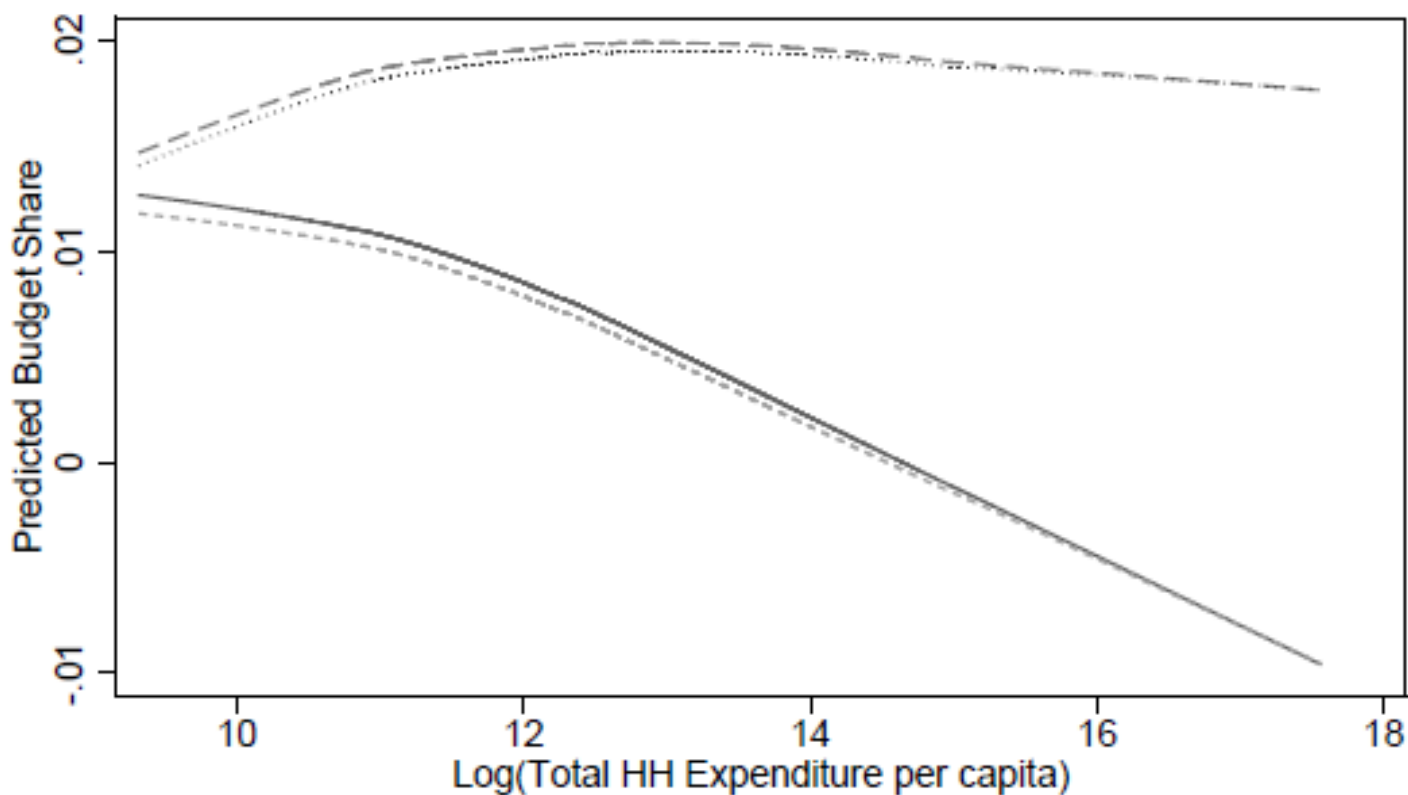
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

If palm oil prices go up 1%, demand falls by 0.9%, sunflower demand increases, but increase is not statistically significant.

If palm and sunflower were perfect substitutes, cross-price elasticity will be 1 (positive and significant).

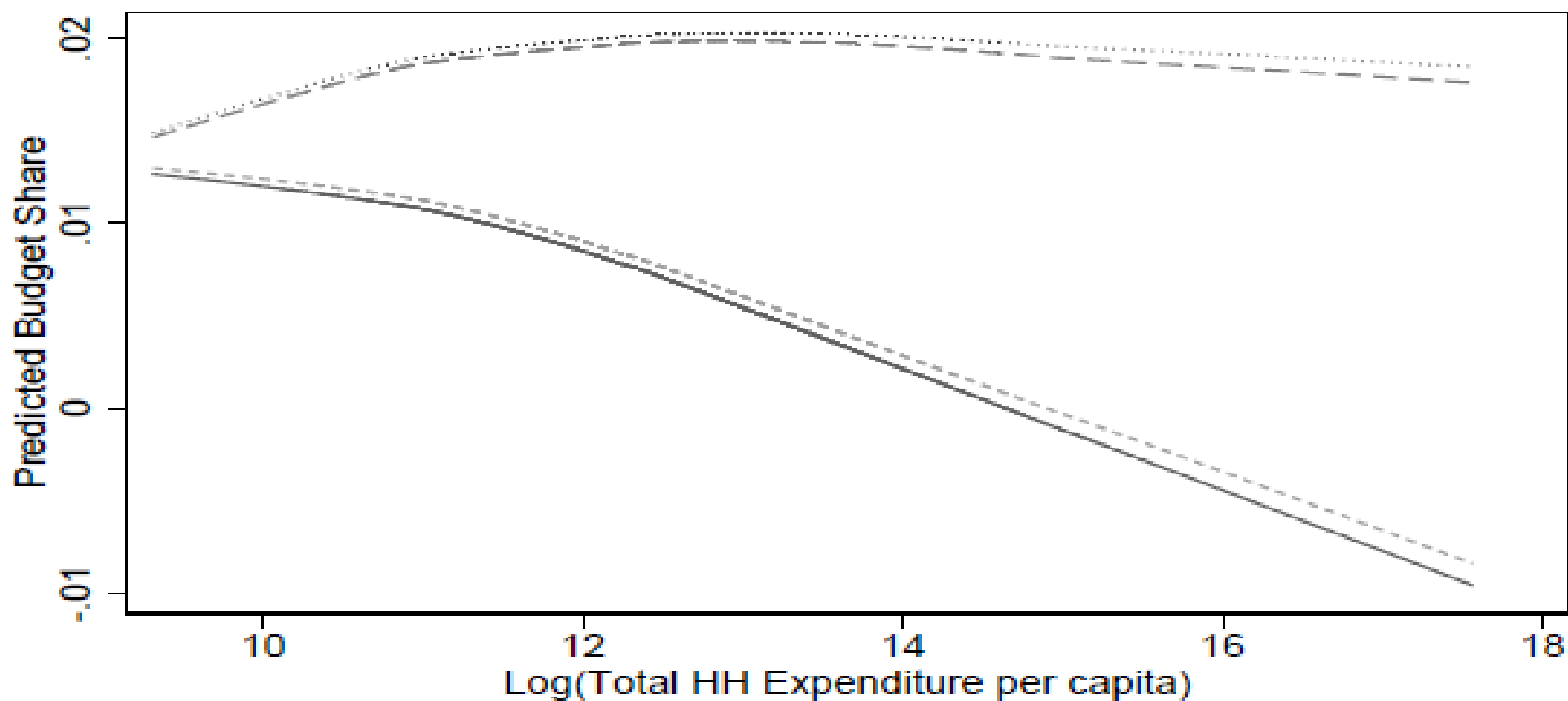


Simulation: 18% VAT Waiver for Sunflower Oil





Simulation: 10% Price Increase for Palm Oil



Oils			
—	Sunflower Oil	Sunflower Simulated
- - - -	Palm Oil	Palm Simulated



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Discussion and Conclusions

- Tariff/Rebate price changes unlikely to stimulate demand
- Urbanization and income play a large part in demand patterns
- Price patterns suggest consumer preferences for quality

THANK YOU



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Dalberg

