Analysis of the Structural Changes in Vietnamese Households' Food Demand: 2010 to 2030

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OVERVIEW

According to the General Statistics Office of Vietnam (GSO), real per capita income based on household surveys almost doubled between 2002 and 2010 (GSO, 2011b). The consumption of rice, the country's major staple and key agricultural export, consistently declined while the consumption of other non-rice food increased. However, the proportion of food expenditure in total income remained around 40% during this period, indicating that food remained important in the consumption basket of Vietnamese households.

Since Vietnam's economy is expected to grow and many more households will get richer in the next decades, it is important for policy makers and analysts to know the potential directions and magnitudes of food consumption in order to design appropriate and timely food policies.

OBJECTIVES

Estimate a food demand system for Vietnam and project the demand for rice and 5 major food groups including pork, meat and fish, vegetables and fruits, sugar and drinks up to 2030.

METHOD and DATA

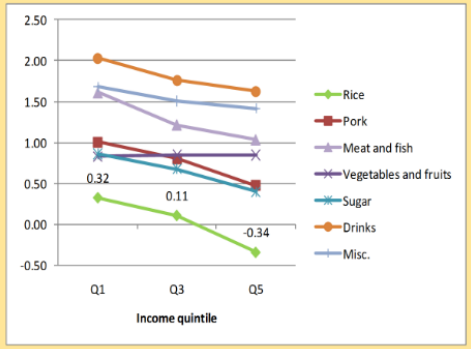
The Quadratic Almost Ideal Demand System (QUAIDS) originally developed by Banks, Blundell, & Lewbel (1997) and modified by Poi (2013) to include demographic variables is used.

$$w_i = a_i + \sum_{j=1}^{n} \gamma_{ij} \ln p_j + \beta_j \ln\left[\frac{m}{\alpha(\boldsymbol{p})}\right] + \frac{\lambda_i}{b(\boldsymbol{p})}\left\{\ln\left[\frac{m}{\alpha(\boldsymbol{p})}\right]\right\}^2$$

Data are obtained from the Vietnam's Household Living Standard Survey conducted in 2010 by GSO. After some attritions, the final data set contains the food expenditure and demographic information of 9,319 households.

RESULTS – Base model

Estimated expenditure elasticities by income quintile.



Except for rice, all food groups have positive expenditure elasticities at the national average. Consistent with our expectation, all food groups show a declining trend in elasticities at higher levels of expenditure.

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RESULTS - Projection

Scenario assumptions

Economy	Real food expenditure growth rate	Real price growth rate
Optimistic	8%	1%
Pessimistic	4%	2%
Urbanization in 2020	Urban share	Rural share
2010 level	28%	72%
High	38%	62%
Low	33%	67%
Urbanization in 2030		
2010 level	28%	72%
High	45%	55%
Low	40%	60%

Projected food demand on a per capita basis (kg/person/year)

Food group	Unit	2010	2020		2030	
			Optimistic	Pessimistic	Optimistic	Pessimistic
Rice	Kg	124.5	120.9	108.8	102	89.8
Pork	Kg	13.9	22.2	15.6	28.7	16.7
Meat and fish	Kg	26.9	50.8	32.6	82	38.2
Vegetables and fruits	Kg	72.7	122.8	82.5	189.6	92.4
Sugar	Kg	5.5	8	5.9	9.6	6
Drinks	Liter	12	26.3	15.6	50.3	19.9

CONCLUSION

- Per capita rice demand declines in 2020 from the 2010 level and continues to decline in 2030. The per capita demand for pork continues to increase at higher levels of food expenditures but its growth rate is slower than that of meat and fish.
- The effect of urbanization is more remarkable for rice while it is quite modest for the remaining food groups.

Reference

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