

# Preference variability along the policy chain in Vietnam

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## ABSTRACT

This research explores two questions: first, what is the prevalence of bounded rationality across different populations and across population characteristics? Second, are there systematic differences in decision making procedures between those who regularly allocate public resources, and those who are more frequently the intended recipients of these policy decisions? To test for differences we sample across individuals in Vietnam who vary by the responsibility they have over public resource allocation decisions. Our findings indicate that within both groups, individuals are more likely to satisfice than maximize, but that there are significant differences between policy makers and farmers (program recipients).

## MOTIVATION AND METHODS

Social scientists have documented the results of hundreds of experiments that challenge standard economic assumptions of how we make decisions, especially under uncertainty and over time. The accumulated evidence is largely from laboratory experiments in the U.S. and Europe, with little comparable work from the field or from developing or transition countries. This evidence suggests that similar behavioral anomalies in less developed countries may be at least as prevalent because of the greater incidence of poverty and food insecurity, large rural populations, and poorly functioning markets, and that these behaviors may more acutely affect policy outcomes because there are fewer formal institutions to temper their effects.

### Survey:

Original data were collected using stated preference surveys from three communities in the Nam Dinh and Ninh Bin provinces near Hanoi. The surveys were administered in 2005.

### Models of Decision Making<sup>1</sup>:

P-1: Maximization –  $\max_{a_j} V(a)$

P-2a: Threshold – search until all  $j$  in the alternative  $a_j$  satisfy,  $v \geq v^*$ ,  $v^* > 0$ .

P-2b: Uniform – search until all  $j$  in the alternative  $a_j$  are equal,  $V(a_j) = V(a_k)$  for all  $j, k$ .

## CHARACTERISTICS OF SAMPLE GROUPS

Characteristics	Farmers (n=40)	Policy makers (n=47)
	%	%
<b>Gender</b>		
Male	75.0	80.9
Female	25.0	19.1
<b>Highest Level of Education</b>		
Illiterate	2.5	0.0
Primary/Secondary	77.5	0.0
High School/Jr College	20.0	4.2
University/Graduate	0.0	95.7

## RESULTS

### Decision Model Question

You must choose among three medicines to help with your child's diarrhoea. The doctor tells you that each of the three has different strengths and weaknesses in reducing discomfort, killing the bacteria, preventing dehydration, and speeding recovery. You have the scores of each medicine from medical tests, but you don't know which score applies to which category.

**Base:** Which would you choose, scores are out of 7?  
 Medicine 1 7, 7, 7, 0 "zero"  
 Medicine 2 4, 4, 4, 4 "uniform"  
 Medicine 3 3, 3, 6, 6 "threshold"

**Modified:** Which would you choose, given scores are now out of 11, and you are given the information that an 80 year old village elder has chosen medicine #4?  
 Medicine 4 8, 8, 9, 0 "zero"  
 Medicine 5 6, 6, 6, 6 "uniform"  
 Medicine 6 5, 5, 8, 8 "threshold"

### Sample Computation Question<sup>†</sup>

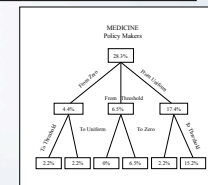
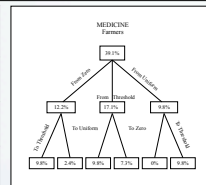
• Medicine and a vaccination cost VND 110,000 in total. The medicine costs 100,000 more than the vaccination. How much does the vaccination cost?

### PERCENT ANSWERING COMPUTATION CORRECTLY (extension to questions re: clothing, medicine, food, borrowing)

Decision Domain	Socks and shoes	Medicines and vaccines	Chicken and rice	Interest and loan fees
Farmers	5	0	25	0
Policy Makers	70	60	90	45

**Decision Model Results:** % of respondents selecting each option for the Base Question (left), % of respondents changing their choice of medicine between the Base and the Modified Question (center-farmers, right-policy makers)

Base Question Results	Farmers (%)	Policy Makers (%)	Combined Group (%)
Medicine 1	25.6	8.5	16.3
Medicine 2	43.6	59.6	52.3
Medicine 3	30.8	31.9	31.4



### Fairness Question

An aid shipment containing 12 bananas and 12 papayas is to be distributed between 2 people in a remote village: Nguyen and Viet. The following information is known to all:

- Nguyen derives 100 units of vitamins from each banana eaten, and 0 from papaya.
- Viet derives 50 units of vitamins from each banana and 50 from each papaya eaten.
- Both Nguyen and Viet care only about vitamins received from the fruit and nothing else.

How should the fruit be divided between Nguyen and Viet if the division is to be fair? Choose one:	Nguyen: 6 bananas, 6 papayas Viet: 6 bananas, 6 papayas	Nguyen: 12 bananas, 0 papayas Viet: 0 bananas, 12 papayas	Nguyen: 8 bananas, 0 papayas Viet: 4 bananas, 12 papayas
Farmers' response (%)	19	36	45
Policy makers' response (%)	24	11	65
Distribution Method	Equalize Fruit	Maximize Vitamins	Equalize Vitamins

### Experience, Responsibility, Control Questions

- Indicate the *experience* you have had deciding what food to buy for the household
- Indicate the *responsibility* you have had deciding what food to buy for the household
- Indicate the *control* you have had deciding what food to buy for the household

## RESULTS

### LOGIT ESTIMATE OF RESPONDENT CATEGORY (1=policy maker, 0=farmer)

	B	S.E.	Sig.	Exp(B)
Age	.399	.147	.007	1.490
Sex (1=female)	-.714	1.599	.655	.490
Discount rate (delaying 4M payment by 3 mos.)	.034	.038	.366	1.035
Discount rate (diff btwn 3 mos. and 1 yr. rate)	.084	.045	.059	1.088
Coin toss (1 = accepts gamble over gains)	.496	1.534	.747	1.641
Attitude re:future (scale increases w/optimism)	-2.970	1.743	.089	.051
Fairness (1 = equal fruit)	5.380	2.178	.013	217.100
Fairness (1 = equal vitamins)	6.071	2.380	.011	433.298
Value of good roads and sewage	.746	.899	.407	2.108
Responsibility for help to others	-.681	1.346	.613	.506
Responsibility for public service priorities	-1.473	.895	.100	.229
Responsibility for productive activities	-3.998	1.648	.015	.018
Control over help to others	-1.112	1.059	.294	.329
Control over public service priorities	3.291	1.372	.016	26.872
Control over productive activities	-1.750	1.283	.172	.174
Experience with help to others	-1.873	1.407	.183	.154
Experience with public service priorities	1.205	.688	.080	3.337
Experience with productive activities	5.342	2.112	.011	208.872
Constant	-11.608	6.691	.083	.000

Nagelkerke R<sup>2</sup> = .851

Chi-square = 85.11; df = 18

## CONCLUSIONS

- For both policy makers and program recipients, across three decision making domains: seed, medicine, and candidate, the satisficing procedure was most common.
- Risk orientation influences decision procedures of farmers more than of policy makers. Risk seeking farmers were more likely to maximize than either risk averse farmers or risk seeking policy makers.
- Risk seeking respondents are significantly more likely to answer the computation question correctly.
- Results suggest significant differences between farmers and policy makers in what constitutes a fair distribution of resources.
- Policy makers felt a significantly greater sense of experience and control over decisions on priorities for public services and their own income earning activities, but significantly less responsibility, than did farmers.

It is too early to determine the source of these differences. It is not too early; however, to recognize that systematic differences revealed in these behavioral experiments may contribute to a disconnect between the resource allocations and program designs preferred by policy makers and program recipients.

## REFERENCES AND WORKING PAPER

- <sup>1</sup>Rubenstein, Ariel. *Modeling Bounded Rationality*. Cambridge: MIT Press, 1998.  
<sup>2</sup>Frederick, Shane. "Cognitive Reflection and Decision Making." *Journal of Economic Perspectives* 19, no. 4 (2005):25-42.

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