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**Under-Contribution to Public Goods due to Self-Interested Inequity Aversion.**

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*Poster prepared for presentation at the Agricultural & Applied Economics  
Association's 2012 AAEA Annual Meeting, Seattle, Washington, August 12-14, 2012*



# Under-contribution to Public Goods due to Self-Interested Inequity Aversion



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## Background & Motivation

Self-interested inequity aversion holds that individuals experience negative utility when others benefit more from a public good than themselves, but positive utility when they earn more than others.

A person's decision to contribute to the public good is thus validated when the good provides advantageous returns to themselves relative to others.

Our study uses an economic experiment, which centers on two main treatments with **equal** and **unequal** returns to investigate willingness to contribute to a public good and test self-interested inequity aversion against a self-centered alternative. We also extend our set-up to investigate how factors such as stochastic returns, partial information, lack of government support, and status quo bias might affect perceptions of inequity.

We test our model of self-interested inequity aversion using a **public-good voting experiment** that is modeled after a case from the **U.S. fruit and vegetable** industry, which considered promulgating a mandatory broad-based fruit and vegetable advertising program (akin to a 5-A-Day type of advertising program)



## Objectives

- 1) Examine reasons behind the failure of promotion referenda of generic broad-based fruit and vegetable advertising (Crespi, 2003).
- 2) Provide experimental evidence on the importance of inequity aversion, relative to risk aversion, status quo bias, lack of government support and other factors that have been hypothesized to contribute to reluctance to fund broad-based advertising efforts.

## Experimental Design

Attributes:	Treatments					
	T1	T2	T3	T4	T5	T6
Equal Returns	No	Yes	No	No	No	No
Certain Returns	No	No	Yes	No	No	No
Full Information	No	No	No	Yes	No	No
Government Support	No	No	No	No	Yes	No
Change in Status Quo	No	No	No	No	No	Yes

## Estimation

### Simulated Maximum Likelihood Estimates

	Fixed Coeff. Logit		Random Coeff. Logit	
	Estimate	t-ratio	Estimate	t-ratio
Treatment 2	0.344	1.761	0.538	2.446

### Extensions:

Treatment 3	0.869	4.264	0.914	3.968
Treatment 4	-0.289	-1.377	-0.349	-1.311
Treatment 5	0.487	2.397	0.23	1.023
Treatment 6	0.574	2.783	0.883	3.928

### Means of Random Parameters:

Disadvantageous	0.175	0.949	-5.237	-10.891
Advantageous	-0.059	-0.313	7.251	10.292

### Standard Deviations of Random Parameters:

	1.571	9.453
	3.814	11.598

### Random Parameter Functions:

DI(E(π))	0.943	12.881
AI(E(π))	-1.255	-11.023

## Model

$$V_h(r_h, r_{-h}) = r_h - \alpha_h DI_h - \beta_h AI_h + \varepsilon_h,$$

$$DI_h = \left( \frac{1}{n-1} \right) \sum_{h \neq -h} \max(r_{-h} - r_h, 0),$$

$$AI_h = \left( \frac{1}{n-1} \right) \sum_{h \neq -h} \max(r_h - r_{-h}, 0),$$

$V_h$  Indirect utility function to agent  $h$ ,

$r_h$  Returns from participating in the checkoff program to agent  $h$ ,

$r_{-h}$  Returns to other agents,

$\alpha_h$  Measure of the marginal disutility from disadvantageous inequity (others earn more than agent  $h$ ),

$\beta_h$  Measure of the marginal disutility from advantageous inequity (others earn less than agent  $h$ ).

**Self-interested inequity aversion hypothesis:  $1 > \alpha_h > 0$ ;  $\beta_h < 0$ .**

## Findings

- Strong evidence of **self-interested inequity aversion**.
- Certainty in returns increases the likelihood of participation significantly.
- Allowing for full information about competitor's returns makes no difference on the likelihood of positive vote.
- Government support treatment has a positive impact on the vote, but it is not statistically significant.
- Strong status quo effect: if participants are asked to opt-out rather than opt-in, then the likelihood of support will be higher.