Voting For Environmental Donations: Experimental Evidence From Majorca, Spain*

*Original title: Second-Order Sanctioning in Collective Action Dilemmas

Project outline:

- Background of Majorca, Spain
    1. Tourism industry vital to Majorca
    2. Tourism generates many environmental harms
    3. Policy experience in Majorca to raise money for environmental remediation
        - Ecotax on tourists (hotel surcharge)
        - Voluntary contributions from tourists (purchase "green cards")
    4. Which policy instrument is the best to raise revenue?
- Method: Collective action dilemma experiments with tourists
- Baseline experimental protocols
    1. Each subject given 15 euros
    2. Each subject chooses whether or not to donate money to an Environmental Non-Governmental Organization (ENGO) working in Majorca (the remainder is kept by the subject)
- Treatments
    1. Subjects face a low tax for the ENGO (they must give 5 euros out of original 15)
    2. Subjects face a high tax for the ENGO (they must give 10 euros out of original 15)
    3. Subjects, in groups of 5, vote on whether their group will face a low tax (5 euros) or no tax at all
    4. Subjects, in groups of 5, vote on whether their group will face a low tax (5 euros) or high tax (10 euros)
- Hypotheses
    1. When subjects feel that an environmental tax is legitimate (through voting), they will be more willing to contribute to the ENGO.
    2. When subjects feel others will also give to ENGO, they themselves are more likely to give.
    3. Mandatory contributions to the ENGO through taxation will not crowd-out voluntary contributions completely.
    4. Individuals who vote for environmental taxes, but are placed in a group that does not pass (via majority rule) a vote to impose the tax, will donate less.
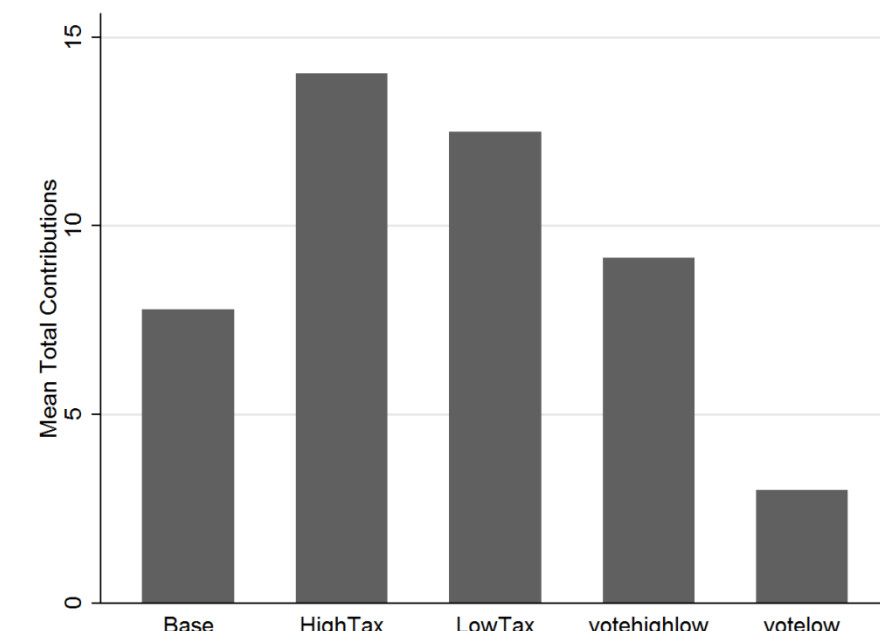
Results:

- Environmental taxes do not completely crowd-out environmental donations.
- Groups of tourists do not tend to pass majority votes to self-impose environmental taxes which would be binding for the group.
- Groups of tourists with the opportunity to vote for binding environmental taxes do not appear to give any more or any less than groups without the ability to vote for binding environmental taxes.
- When forced to choose between a large binding environmental tax and a low binding environmental tax, most tourist groups chose a low environmental tax.
- Individuals forced to vote for either a large binding tax or low binding tax, and that choose a high binding tax, are more likely to give larger environmental donations, especially when the group does not pass the measure for a high binding tax.

Future Research:

- Why does voting for a measure that does not pass cause subjects to give even more?
- How does learning the results of a group-vote outcome change the preferences of the individual?
- In what type s of situations does legitimacy of group decision making change behavior?
    1. Is legitimacy adequately captured through the voting mechanism?
    2. Are there other environments (besides public goods provision) where legitimacy through voting might be more important at ensuring collective action?

Main Results:

Table 3. Voluntary Contributions

	(1) OLS	(2) OLS	(3) OLS
High Tax Dummy	-3.747***	-3.901***	-5.935***
	(0.96)	(0.90)	(0.89)
Low Tax Dummy	-0.383	-1.440	-3.062***
	(0.94)	(0.90)	(0.86)
Vote High/Low Tax Dummy	-4.883***	-4.083***	-0.725
	(1.08)	(1.16)	(1.21)
Vote Low Tax Dummy	-4.783***	-3.213**	0.283
	(1.08)	(1.23)	(1.28)
Trip Experience		-0.158**	-0.124**
		(0.07)	(0.06)
Environmentalism		0.611**	0.708**
		(0.31)	(0.28)
Number of Visits		-0.012	-0.005
		(0.03)	(0.02)
Age		1.695***	0.878**
		(0.39)	(0.38)
Education		0.036	-0.140
		(0.40)	(0.36)
Eurozone Country		-0.320	0.265
		(0.69)	(0.63)
University Experiments			-6.481***
			(1.20)
Constant	7.783***	8.894**	11.956***
	(0.59)	(3.43)	(3.13)
R-Squared	0.228	0.413	0.530
Adj. R-Squared	0.206	0.364	0.486
F	10.282***	8.386***	12.090***
N	144	130	130

Notes: Coefficients with standard errors in parentheses. Two-tailed hypothesis tests: *$p<0.10$, **$p<0.05$, ***$p<0.01$.

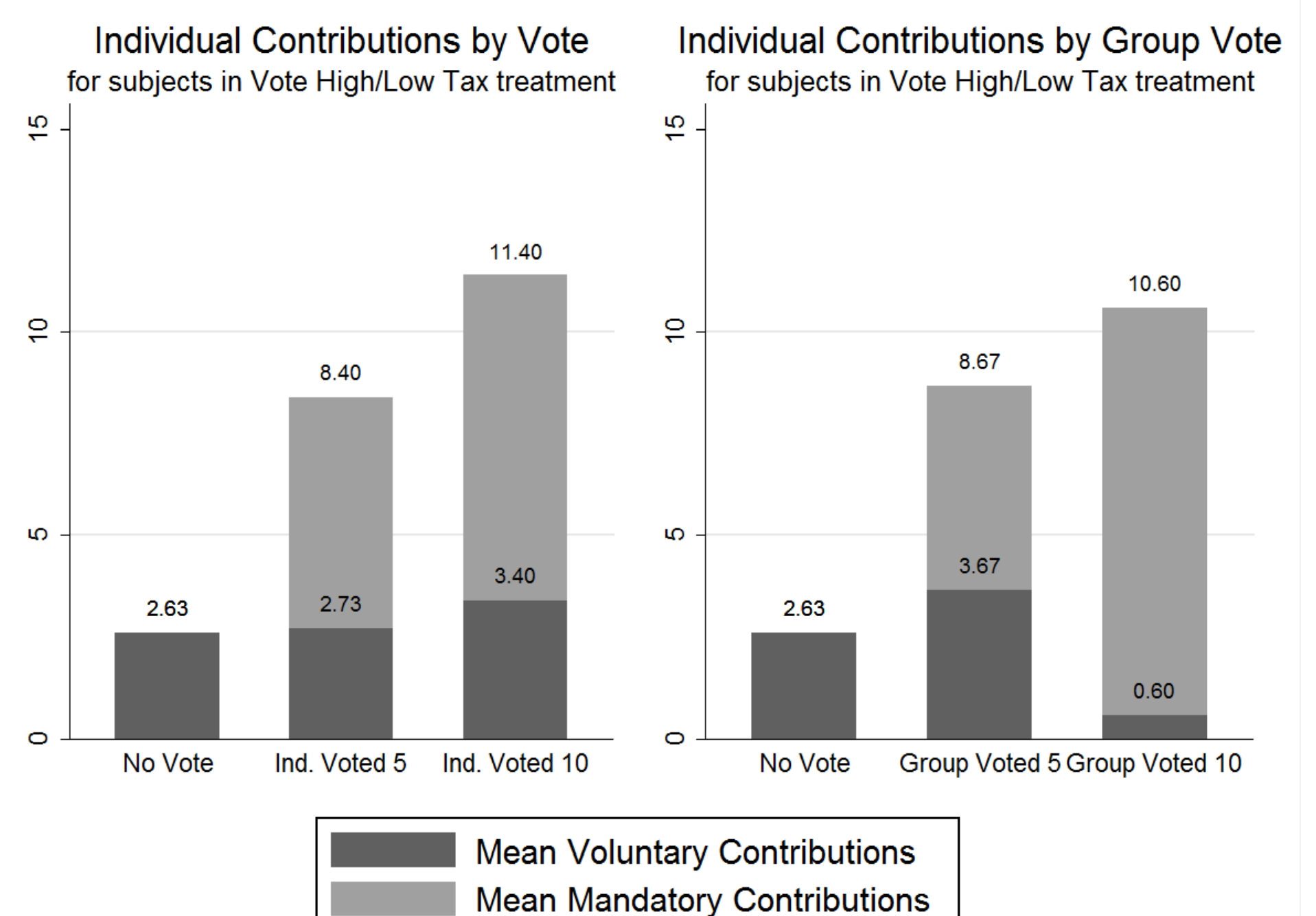## Vote Choice and Donations:

Figure 1. Average individual contributions in the Vote High/Low Tax treatment by individual (left panel) and group-aggregated (right panel) votes. The dark gray bar represents mean voluntary contributions while the light gray bar represents mean voluntary contributions. The total height of the bar represents average total contributions. The number above each bar is the average total contribution, while the number within each bar is the mean voluntary contribution. Therefore, the mean mandatory contributions are the difference between the number representing mean total contributions (top number of bar) and the number representing mean mandatory contributions (number in middle of bar).

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