

The goals of this problem set were to test your knowledge, and “stretch” some of the material discussed in class. Everyone did an excellent job! Now you guys are the masters and I am the apprentice! Keep up the good work!

Problem Set One

True or False

- 1) Whenever you have only two voters or stakeholders then they are both pivotal.

Answer: False

Explanation:

Counter Example 1: Neither voter is pivotal.

Stakeholder	Policy 1	Policy 2
Timothy	30	0
Ronaldo	30	-5

Counter Example 2: Both voters are pivotal. Here we have a tie as to which policy will win. However, excluding either stakeholder leads to a definite policy winner. Thus each voter changes the decision from an “ambiguous outcome” to a clear-cut winner.

Stakeholder	Policy 1	Policy 2
Timothy	30	15
Ronaldo	15	30

I think Carl did a good job of fleshing this out. Carl said that either they are both pivotal or they are both not pivotal.

Counter Example 4:

In this case, Timothy is “pivotal” and Ronaldo is not.

Stakeholder	Policy 1	Policy 2
Timothy	15	30
Ronaldo	30	5

The purpose of this problem was to show the tricky nature of making generalizations. One of the keys to the demand revelation is experimenting with different scenarios and possibilities. “What if” thinking is essential to the procedure.

- 2) The VCG measures the intensity of the voter’s preferences.

Answer: True

Explanation:

The VCG is not a “majority rules” voting procedure. The winning policy is the one with the most total net benefits; not the one with the most support. Indeed, examine the following scenario:

Stakeholder	Policy 1	Policy 2
A	\$1000	
B		\$5
C		\$5
D		\$5

Here policy 1 wins, even though the majority of people oppose it. The intensity of the preferences determines who wins; not the quantity (number of voters). One downside would be income inequality; a few wealthy people could out-vote a majority of poor people. I will address this issue later, in greater detail.

3) The VCG can always be used to *completely* solve the free rider.

False

No. It can solve it completely, but certainly not always. In these cases it can still lessen the free rider problem, and lead to more efficient outcomes.

4) When you have large numbers of voters the Clarke tax increases!

False

Carl pointed out that given certain assumptions, the Clarke tax can actually increase as you add more and more stakeholders. Eventually, however you approach an upper limit after which the Clarke tax decreases. However, it is technically possible to have a large number of voters (it all depends upon what you call “large number”) and increasing Clarke taxes!

5) **True** A voter is by definition pivotal when they change the outcome of the policy decision.

6) **False** A “public” good is non-rivalrous and non-excludible. This was a basic definitional question.

7) **False** The free rider problem can be solved.