

THE PROGRESS REPORT

Demand Revelation: Better than Voting

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The problem with voting for collective goods is that it does not measure the intensity of preference. Someone who mildly favors a project has the same voting strength as someone who has a great desire for it. That can lead to irrational outcomes.

Suppose you have two housemates, and the three of you consider whether to buy a television for the household. If two vote against and one votes in favor, then the social choice is not to buy it. But if the one in favor greatly wants it, the rational choice may be to buy it, since the overall gain would be favorable.

If they trusted one another to tell the truth, they could just say how much they would pay to get a TV that costs \$300. If one says \$40, the second says \$60, and the third says \$250, the total is greater than the \$300, so they should buy it, and each pay in proportion to their stated value.

But suppose we have a group where we are not sure if all would tell the truth. Some may try to be "free riders" who benefit from a collective good without paying for it.

There is a way to make social choices that is superior to plain voting. It is called "demand revelation." **This method measures the intensity of desire rather than just recording "yes" or "no." Demand revelation also provides an incentive to get people to truthfully reveal their demand for a collective good.**

First, divide the total cost by the number of persons. If they get the good, then each will pay this average cost. Then have each person write down his stated value, the most he would be willing to pay. These statements are collected, and then the coordinator calculates the net value of each person, which is the stated value minus the payment for the good. If the sum of the net values is negative, they don't buy the good.

If the sum of the net values is positive, they buy the good. (If the sum is zero, then they can toss a coin to decide.) If the good is bought or made, then each person pays the average cost. They then see if any persons were pivotal. A member is pivotal if he changes the outcome relative to having stated an average value.

All pivotal persons then have to pay the social cost of their demand, namely having changed the outcome in their favor. The social cost consists of the sum of the net values other than that of the pivotal agent.

In the TV example, if John states a value of \$40, Susan says \$60, and Carl says \$250, they get the TV, and Carl is pivotal. John has a net value of -\$60 (\$40 minus \$100), and Susan has a net value of -\$40 (\$60 - \$100). The total net values other than Carl's is thus -\$100. Carl pays this social cost. It can go to a group fund. They may have other collective goods to decide on later,

where others are pivotal, and add to the fund. The social cost payment does not go to specific persons, but to the group as a whole.

This demand-revealing method was developed by the economist **Edward Clarke**, and further by **Nicolaus Tideman** and **Gordon Tullock**. It uses economic principles to make effective social choices. Those who change the outcome in their favor create a social cost by making people pay more for a good than what they want, or to not have a good that they are willing to pay more for. By paying this social cost, they compensate society for getting their way.

Demand revelation provides an incentive to tell the truth, because if one states a value lower than his true desire, he may not get a good he really wants, and if he states a value higher or lower than his true desire, he may end up paying a social cost greater than the value of the good to him or the value of not getting it.

The demand-revealing method is a little more difficult than plain voting, but gets superior results, so if you are a member of a club or group, try it out next time you all need to decide on a project such as a joint trip, a collective good, or some repair job. Now with the internet, a larger group could use it also, with folks logging into a web site to enter their stated values.

Demand revelation is a good way to make social choices when good is collective and does not impact the rent paid by the members. We would still use voting for candidates to represent us, but use demand revelation when voting for a collective good.