

1 How can consumer's surplus measures be used to evaluate policies?

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Assume a state of the world s from the perspective of individual i can be described by the vector $\mathbf{S}_i^s \equiv (y_i^s, \mathbf{P}^s, \mathbf{C}^s)$ where y_i^0 is individual i 's income in the initial state, \mathbf{P}^0 is a the price vector for market goods in the initial state and \mathbf{C}^0 is a vector of the levels of the nonmarket commodities in the initial state.

1.1 Will this policy increase social welfare?

1.1.1 This question can be easily answered if one know the swf function

$$sw = sw(\mathbf{y}^s, \mathbf{P}^s, \mathbf{C}^s)$$

where \mathbf{y}^s is the vector of income, by individual, in state s . If one happens to know the social welfare function, one can always determine whether $sw(\mathbf{y}^1, \mathbf{P}^1, \mathbf{C}^1) \leq sw(\mathbf{y}^0, \mathbf{P}^0, \mathbf{C}^0)$. What is a social welfare function and how might a society figure out what there social welfare function is? Put simply, a social welfare function ranks all possible states of the world in terms of the welfare of society, the higher the rank of a state the more it is preferred by society. As to how a society might agree on a swf, who knows? A constitution can be viewed as a weak form of a swf in the sense that it provides a mechanism for ranking states of the world. For example our Federal constitution provides certain mechanism for ranking states.

Personally, I think the social welfare function should reflect the preferences of its member in that Pareto improvements should imply an increase in social welfare. The social welfare function has to decide the equity issue of how society will trade off the welfare of its different members.

1.1.2 Can we use consumer's surplus measures to answer the question?

Assume we know, for this policy, cv_i and $ev_i \forall i$

If $cv_i \geq 0 \forall i$ and strictly positive for some i , the the policy is a Pareto improvement. This does not imply that the policy is social welfare increasing for all social welfare functions, but it says that the policy is welfare increases for all swf that assume social welfare goes up if some members are made better off and none are made worse off.

What if some of the cv_i are positive and some are negative (the common case). In which case, we might consider

$$\sum_{i=1}^N cv_i$$

and

$$\sum_{i=1}^N ev_i$$

Which sum should we use if want to see if the policy passes the B-C test? The first.¹ Why? We want to see if in the new state the winners could compensate the losers. In explanation, if an individual finds the policy an improvement, her $cv > 0$ and her wtp for the improvement. If the individual finds the policy a deterioration, $cv < 0$ and, in absolute terms the individual's wta the deterioration. If

$$\sum_{i=1}^N cv_i > 0$$

the policy is a P.P.I. $\sum_{i=1}^N cv_i > 0$ does not imply the policy is social welfare increasing. It does imply that the current allocation is not efficient.

What if

$$\sum_{i=1}^N cv_i < 0$$

We can conclude the policy is not a P.P.I. It does not imply that the policy is social welfare decreasing; it still might be welfare increasing.

As economists working for policy makers how should we present and explain our cv_i estimates? Who wins, who loses and why.

¹ $\sum_{i=1}^N ev_i > 0$ says that the amount the losers would be wtp to maintain the status quo is less than the amount the potential winners would have to be compensated to forego the change. This does not imply the change is a P.P.I. Said another way, $\sum_{i=1}^N ev_i > 0 \not\Rightarrow \sum_{i=1}^N cv_i > 0$