Order-based Values

Their Scope and Their Limits

Erich Rast
erich@snafu.de

Nova Institute of Philosophy / IFILNOVA

8th July 2014

Overview

1. Order-based Values
2. Value Decomposition
3. Scope and Limits

Starting Example

Salad vs Steak

Salad is better than a steak.

$\forall x, y[Salad(x) \ \& \ Steak(y) \rightarrow BetterThan(x, y)]$

- The comparative of good.
- The value predicate compares (at least) two sorts of objects.
- It can be understood in many ways, as there are many 'varieties of goodness' (von Wright).
- Value statements vary by degree of presupposed commonality, purported intersubjective liability & validity.

Starting Example (cont'd)

Salad vs Steak

Salad is better than a steak.

- Hedonic: Salad gives me more pleasure than a steak.
- Medical: Eating salad tends to be more healthy than eating a steak (in the average, if not overdone, etc.).
- Instrumental: Salad is better for attracting a rabbit than a steak. [says one hunter to the other]
- Social: Eating salad in these bad times is more just and solidaric than eating a steak [while the masses are starving].

What are Order-based Values?

Order-based values are formal models of values that are based on (i) the comparative form of the value predicate, and (ii) ordering relations between alternatives (states of affairs, objects, goods, commodities, . . .).

- Most common base relation for monist value predicates are *preference relations*.
- Starting point of theories in economics, e.g. consumer theory and production theory.
- Note:
  - Preferences can be formalized in various different ways.
  - A type of ordering relation could be adequate for a certain type of value (notion of goodness), another type of ordering relation could be adequate for preferences *revealed by actual choices*.
  - You always need to distinguish choice-guiding values from values in general. (This thesis is slightly more controversial for preferences, because of the Revealed Preferences thesis.)

Preferences as Preorders

Preorder Relation

A total preorder relation is a reflexive, transitive and complete binary relation.

- Reflexive: $a \succsim a$
- Transitive: $a \succsim b \ \ \& \ \ b \succsim c \rightarrow a \succsim c$
- Complete: $a \succsim b \vee b \succsim a$

Weak Preferences

Weak preferences are defined as a total preorder $\succsim$ over a set of alternatives A.

Strict Preferences

$a \succ b \Leftrightarrow_{Df} a \succsim b \ \ \& \ \ b \not\succsim a$

Indifference

$a \sim b \Leftrightarrow_{Df} a \succsim b \ \ \& \ \ b \succsim a$

Value Functions

In economics, these types of preferences are commonly represented by value functions. These are functions from alternatives into real numbers such that the following condition is fulfilled:

Representation Condition

For all $x, y \in A$: $v(x) \geqslant v(y) \Leftrightarrow x \gtrsim y$

- These are easy to construct for finite A: Start with the least preferred x's, set them all to $v(x) = 0$, then set all y immediately preferred to x (i.e. $y \succ x$ and there is no z s.t. $y \succ z \ \& \ z \not\succ x$) to $v(y) = 1$, and so forth.
- Surprisingly, the condition is not always fulfilled for infinite A, and the conditions needed to ensure this are non-trivial.

Multiple Aspects

- Many if not all value predicates are 'thick': They have more than one dimension and usually involve factual statements.
- In economics, multiple aspects are represented by multiple preference relations, which are in turn represented by multiple value functions.

Decomposition Problem

If $v_1, \ldots, v_n$ are value functions that represent n aspects of a particular variety of goodness (without context dependence or covering value), how can they be combined into an overall valuation?

Formally, we ask for F in:

$$v(x_1, \ldots, x_n) = F[v_1(x_1), \ldots, v_n(x_n)]$$

Remarks About Decomposition

$$v(x_1, \ldots, x_n) = F[v_1(x_1), \ldots, v_n(x_n)]$$

- A particular choice of F limits the relations that are allowed to hold between the preferences represented by $v_1, \ldots, v_n$.
- Additive models: If $v(x_1, \ldots, x_n) = \sum_{i=1}^{n} w_i v_i(x_i)$ then the preference relations $\succsim_i$ must be mutually independent of each other.
- There are other models: multiplicative, GAI, lexicographic, Choquet, and so forth. But the more preference independence and other more technical conditions are relaxed, the harder it becomes to *elicit* the preferences.
- A problem of conjoint measurement: We need to be able to determine the *subvalues* of various aspects of a notion of betterness on the basis of examples for which $v(x_1, \ldots, x_n)$ are known.

Scope

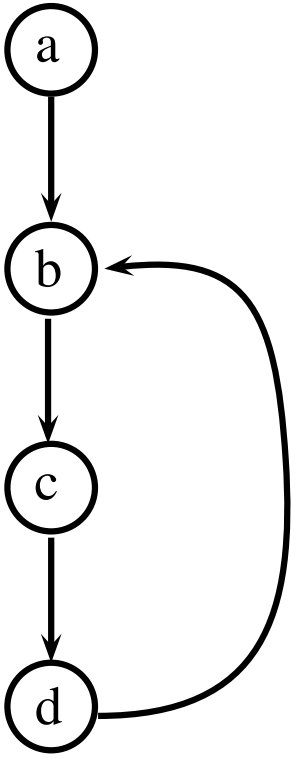
- If alterations of the underlying preference relations, non-additive models, and cardinal value functions are also considered, this methodology in general applies to *any* comparative form of a value predicate.
- Monadic value predicates like ‘good’ may be derived from the comparative but not vice versa.
- The theory of conjoint measurement is highly relevant for *rational theories of value*, because without appropriate representation theorems it is not clear how a thick value concept could be (i) determined, and (ii) choice-guiding.
- Many known criticisms are ill-conceived:
  - Numerical values are insignificant in ordinal value functions and cardinality need not be presumed automatically.
  - The methodology does not force one to presume weighted sum aggregation, let alone sum utilitarianism.
  - The approach can be adopted to deal with incommensurability, value pluralism, commitments, duties and obligations.

Limitations I

There are many existing critiques on the economic approach. For example:

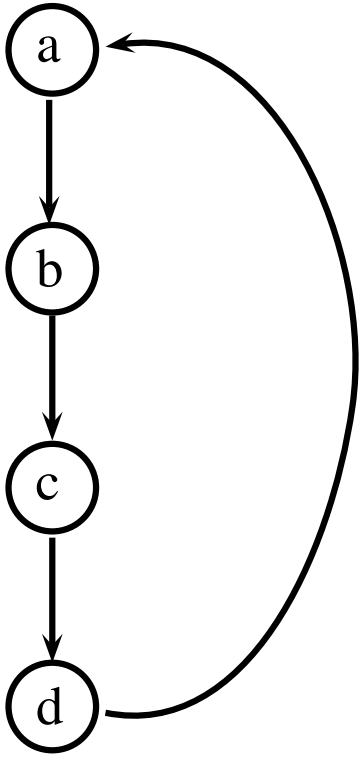
- Preference relations are inadequate
  - failure of preference transitivity (e.g. Schumm, Temkin)
  - failure of transitivity of indifference (e.g. Tversky)
  - incommensurability and parity (e.g. Chang)
- Conflicts with the deontic tradition (e.g. Sen).
- But most of the latter only apply to utilitarianism, not to axiology.

Failure of Transitivity



(a) choice-guiding

intransitive preferences



(b) non-choice-guiding

intransitive preferences

Limitations II

There are, in my opinion, two more important problem domains that are intertwined with each other:

- Open problems in delineating along the subjective–objective axis (liability, normative force, etc.) and generally getting the the context dependence of value predicates right from a normative perspective.
- Open problems related to justification, which can be based on personal preferences, empathy, social norms, first axiological principles, regulatory social principles (reciprocity, fairness), etc.

Subjective vs. Objective

Salad vs Steak

Salad is better than a steak.

Drone Strikes vs. No Drone Strikes

A world with targeted assassinations by drone strikes is better than a world without them.

- The first example can be meant purely subjectively but also be read as a (mostly factual) statement of medical goodness.
- The second example is hard to read as an expression of a purely subjective preference or inclination.

Chocolate vs. Vanilla Ice Cream

Chocolate ice cream is better than vanilla ice cream.—Why?
[Don't know. Just prefer it that way.]
$\rightsquigarrow$ No justification seems to be needed.

Drone Strikes vs. No Drone Strikes

A world with targeted assassinations by drone strikes is better than a world without them.—Why?
$\rightsquigarrow$ Justification seems to be required.

Summary

- The general structure of values is similar, though not identical, with common representations of values in economics and decision making.
- There is no reason to believe that the general axiologist can 'get around' the problems that have been investigated in this literature such as the conjoint measurement problem.
- Different varieties of goodness come with different (i) context dependences, (ii) presuppositions of commonality, (iii) justificatory requirements.

Literature

- Debreu, G. Theory of Value: An Axiomatic Analysis of Economic Equilibrium. Yale University Press, 1959.
- Fishburn, P. C. Utility Theory for Decision Making. John Wiley and Sons, 1970.
- Hansson, S. O. The Structure of Values and Norms. Cambridge University Press, 2001.
- Keeney, R. L. & Raiffa, H. Decisions with Multiple Objectives: Preferences and Value Tradeoffs. John Wiley & Sons, 1976.
- Keeney, R. L. Value-focused Thinking. Harvard UP, 1996.
- Krantz, D. H.; Luce, R. D.; Suppes, P. & Tversky Foundations of Measurement, Volumes I-III Academic Press, 1971, 1989, 1991.
- Temkin, L. S. Intransitivity and the Mere Addition Paradox. Philosophy & Public Affairs, 1987, 16, 138-187.
- Sen, A. K. Rational Fools: A Critique of the Behavioral Foundations of Economic Theory. Philosophy and Public Affairs, 1977, 6, 317-344.

- Temkin, L. S. Intransitivity and the Mere Addition Paradox. Philosophy & Public Affairs, 1987, 16, 138-187.